The Iron

A Review of the Hardware, Iron and Metal Trades.

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make the excellence of which depends a largery of the and a half time and the time and the catastrophe at Nargella. The catastrophe are time and the catastrophe at Nargella and the Ca steam pressure were kept constantly at the maximum hight. The steam fan is supplied with a good regulator, and it is claimed that it will run at full speed with from 30 to 40 pounds of steam, and will not increase its motion when the pressure runs up to 60 or 80 nounds.

VES

So pounds.
The importance of having a uniform The importance of having a uniform blast in many large establishments where any irregularity or stoppage would result in serious loss, has led to the adoption of every means which tend to increase the durability of the machinery. All the running parts are accordingly made of steel, except the composition boxes. The blast wheel of the blower, the arms and the hubs, the crank and crank shafts, crank pin connecting rod. and crank shafts, crank pin, connecting rod, straps, gibs and keys, cross-head, piston rod and piston, eccentric, eccentric strap, rocker arm and valve rod, are all made of steel. The journals are provided with self-oiling apparatus, so that the blower can be run for long periods without any stoppeds cannot be. apparatus, so that the blower can be run for long periods without any stoppage caused by the heating of boxes, while the crank pin is kept ciled by a novel device invented by Mr. Sturtevant.

The great variety of uses for which fans and blowers have obtained general adoption, makes the manufacture of a series of styles and sizes a necessity. They are now largely used for supplying cool air or causing ventilation by the exhaustion of hot or vitiated air from mines public buildings or factories.

SCIENTIFIC AND TECHNICAL.

When, almost ten years since, De la Bastie made known to the world his process of annealing glass in oil, the value of his discovery was somewhat overrated. Since then his process has gained a firm foothold in certain branches of glass manufacture, and it is therefore that recent it is, therefore, that recent

EXPERIMENTS ON TOUGHENED GLASS, made by Dr. Schott and published in the Verhandlungen z. Beford d. Gewerbfl., are worthy of attention. The object of the German investigator's trials was to ascertain the best temperature of the glass and oil, and the best composition for the glass. oil, and the best composition for the glass.

The results may be summarized as follows:

Academy of Sciences, described the wonderful effects of this fluid, which has the power of preserving not alone the color and form, results. 3. Soft, half-crystal glass, composed sissues which may be prepared by immer-down displays ago at the venerable age of 85. English and lime, gives but little better results than pure soda-lime glass. 4. The tooler the glass when plunged, the hotter must be the temperature of the bath. 5.

especially the witching of the resent 170 yards to 250 yards, throwing back the banks to a width of 800 yards; the mouth of the river Marcs, which at present enters the Theiss at a dangerous angle above Szegedin, to be transferred to the lower extremity of the town.

The project suggests the main distribution of the future drainage and irrigation, and winds up with details of the more pressing part of the work.

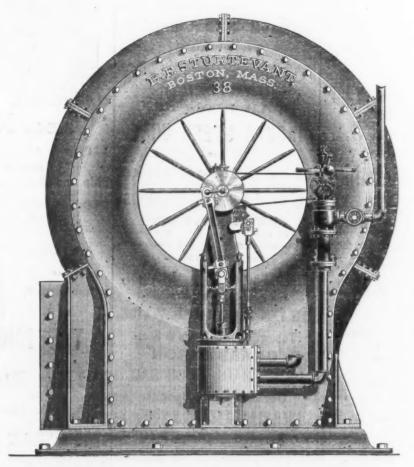
winds up with details of the more pressing part of the work.

Soon after the war of independence in 1848-9 the works were begun, strictly after this plan, with the exception of the Szegedin part. The best part of the nobility, being excluded from political life, concentrated their energies in advancing the work; and the government found it prudent to advance money. These works were vigorously pushed on till the year 1867, as vigorously and effectively as was possible with a limited and overworked staff, 25 or 27 civil engineers in all. In 1867 the works were abruptly stopped, in consequence of the country's having recovered part of its ancient constitution. The political revival, and the construction and endless projecting of railways, &c., has deprived the Theiss company was split into numerous local boards, which exhausted their feeble powers in futile debates, remonstrances, petitions and finally lapsed into profound and chronic indifference, while the mechanical staff on the whole of the 740 miles was reduced to two engineers and their three assistants in all.

mechanical staff on the whole of the 740 more actually interested in the pressure blowers employed for creating a strong blast in cupols for meling iron, however, he more particularly interested in the pressure blowers employed for creating a strong blast in cupols for meling iron, bars and copper; for blowing reverberatory furnaces, heating and puddling furnaces and nobbling fires; for blowing reverberatory furnaces, heating and puddling furnaces and nobbling fires; for burning fine coal, coal dust and screenings, sawdust or wet tan bark, under steam boilers.

The sizes range from 250 to 500,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cubic feet of air per minute. Those which exceed the capacity of 50,000 cu existing works have been severely tested. Each successive flood overtopped its predecessor by a few inches, as was foretold, but there has been a safe super-elevation of all the completed bank, over even the highest floods. In 1860 the floods encroached on 20 per cent. of the area protected. In 1876, when Szegedin had such a narrow escape, the floods broke only into 5 per cent. of the defended lands; the floods of 1877 into 4 per cent. of the secured area. In 1879, again, 5 per cent. of the protected lands and the town of Szegedin were flooded. Four thousand square miles, then, were safe last year, and only 200 square miles were flooded through the breaches of the neglected banks. Of these 200 square miles, nearly half are situated about Szalak-Taksony and near Szegedin. The cause of the Szegedin catastrophe is thus accounted for: The river was not widened, and the Maros tributary was not diverted to a point below the town, as persistently demanded by the engi-neers and urged by the neighboring local regunning.

Though surveys and projects were made ulation boards. Of the town of Szegedin, o that is lost which was decidedly bad. But



view. The proper temperature of the castiron blocks depends, to some extent, on the temperature and composition of the glass. As in the case of oil, the strength of the finished glass increases with the difference of mperature between the glass and the cast

The Prussian government has published

FLUID FOR PRESERVING ORGANIC SUB-

stances, discovered by Prof. Wickersheimer. The Scientific American states that Prof. Barbeck, at a recent meeting of the Philadelphia Academy of Sciences, described the wonder-2. The warmer the bath the better the but also the elasticity of vegetable or animal

carefully got up surfaces. The upper block given off in treating iron with an acid. The is counterbalanced, so as not to press too heavily on the glass plate. A contact of a few minutes suffices to effect the object in Exposed to the air it oxidized rapidly, depositing peroxide of iron. Again placed in positing peroxide of iron. gained its previous state of saturation. This explains the large proportion of uncombined peroxide that the deposits found in the cyl-inders and steam chests of engines com-monly contain; and the formation of heavy oleate of iron accounts also for much of the corrosion and pitting of the plates of boilers to which grease from any source gains ac-cess. The use of mineral oils, thickened if necessary with wax or paraffine, for the lubrication of the parts of engines working in steam, would be no doubt a good mode of

cal science, he was not disposed to confine its exercise to military improvements. He

where there has been considered any object in starting works, the fall per 100 Exposed to the air it oxidized rapidly, depositing peroxide of iron. Again placed in contact with iron, it attacked this, and regained its prayious state of extraction. This is the Danube, about 1-15 of an grained its prayious state of extraction. The width of the northern point of the river between Tisza-Ujlak and Nameny is 120 yards; about Tokay, 135 yards between Szegedin and the Danube 250 yards. The depth at the first place is 30 feet; at Tokay, and thence right to the Danube, with an increase of 1½ foot, and further on a decrease of 3 feet in the middle reach, 37 feet throughout. In the first reach it waters a section of 1000 square checking corrosion.

Gen. Arthur Jules Morin, the eminent French soldier and scientist, died a few days ago at the venerable age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. Endowed with an extraordinary gift for practical soldier and scientist age of 85. cades back there were floods for ten years running.

must be the temperature of the bath. 5. 100 grams; common salt, 25 grams; saltpender of the bath. 5. 100 grams; common salt, 25 grams; altpender of the bath. 5. 100 grams; common salt, 25 grams; altpender of the glass, if its temperature be high and that of the bath low, than if the temperature of the bath be high also. 6. Boheman glass is not well suited for toughening.

Though surveys and projects were made in the last century, it was not before 1830 carriage wheels and invented pendulums for clocks. He was elected to the directorate of the bath be high also. 6. Boheman glass is not well suited for toughening.

Though surveys and projects were made in the last century, it was not before 1830 carriage wheels and invented pendulums for clocks. He was elected to the directorate of the bath and in the last century, it was not before 1830 that any serious work was done. At this date a surveying staff, under the consciention of the solution four liters of glycerine and one liter of methylic alcohol.

The formation of the bath surveys and projects were made in the last century, it was not before 1830 that any serious work was done. At this date a surveying staff, under the consciention of the solution four liters of glycerine and one liter of methylic alcohol.

The formation of the bath surveys and projects were made in the last century, it was not before 1830 that any serious work was done. At this date a surveying staff, under the consciention of the solution four liters of glycerine and invented pendulums for the last century, it was not before 1830 that any serious work was done. At this date as surveying staff, under the consciention of the solution four liters of glycerine and invented pendulums for the last century, it was not before 1830 that any serious work was done. At this date as surveying staff, under the conscient of min glass is not well suited for toughening.

Dr. Schott has also investigated the metal properties of ordinary and annealed glass treated in a different manner, his tests

on metal control of the balth or glassity are saying of their one believed for toughening.

The formation of the more or less hard lumps that are removed occasionally from the cylinders of steam engines is generally was almost too old for active service, for he glassity are saying of their one metal collection and the collection of the saying of their one study the river. For more than 10 years was almost too old for active service, for he glassity are saying of their one metal collection and the collection of the more or less hard lumps that are removed occasionally from the cylinders of steam engines is generally.

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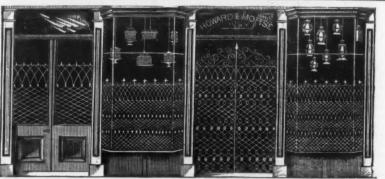
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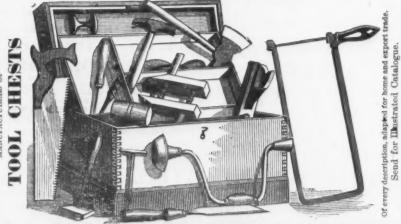
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BY EDWARD KIRK.

NO. II. -CORES.

A core is that part of a sand or loam mold which is surrounded on two or more sides with molten metal when the mold is poured. Cores are always formed in the mold by the formed in a casting is of such a shape that the pattern cannot be molded so as to leave its own core, then a "core print" is put on the pattern, and a core of the desired shape is made and set into the mold. If the core is made of common molding sand, it is called a green-sand core; if it is made of sharp or river sand and dried, it is called a distrength of the sand when dried. The put on the pattern, and a core of the desired sharp or river sand and dried, it is called a dry-sand core; and if it is made of loam and dried, it is called a loam core. Great care rials and formed in different ways, I will de-scribe them separately, with their respec-tive advantages and disadvantages to the

founder.

Dry Sand Cores.—The term dry sand core is applied to a core that has been dried or baked in an oven. These cores are made of sharp or river sand, containing little or no loam, and a quality of this sand is selected to suit the work it is intended for. For large cores, a very open or large-grained sand is used, so that the gas generated by the action of the molten iron upon it may escape more rapidly in order to prevent the formation of blow-holes in the casting. For small cores the finer-grained sand is used, it being less difficult to conduct the gas from these small cores than from the large ones. being less difficult to conduct the gas from these small cores than from the large ones. The fine-grained sand, moreover, makes the smoothest casting. Parting sand, or burnt molding sand which has been scraped from the castings, is often used for small, dry-sand cores, but as this sand contains no loam at all, it makes a very weak core and is not considered safe for large cores. As all these sands which I have mentioned as being used for dry-sand cores contain little or no loam, they would not dry or bake into a solid loam, they would not dry or bake into a solid mass if they were used alone, or in their pure state, but would crumble when handled, and a core would not have sufficient strength to resist the action of the molten metal upon to resist the action of the molten metal upon it. To give this sand more adhesiveness and strength when dry, something must be mixed with it. For this purpose various substances are used, and that I may be more thoroughly understood in describing the advantages and disadvantages of these different materials, I will employ the terms commonly used by the foundryman. The different kinds of dry-sand cores usually receive their names from the ingredient added to the sand before making the core.

Flour Cores.—This term is applied to dry-sand core in which flour has been used for the purpose of increasing the adhesiveness and strength of the sand when dried. In these cores the proportion of flour used varies according to the quality of the sand and the size of the cores to be made. If the sand contains a little loam or the cores to be made are very large, less flour is used than when the sand contains a location as lower or when

from mills, sour or musty flour, and some foundrymen use unbolted flour or middlings; but the best flour for this kind of core is rye or rice flour, and when either of these can be procured they should be used in preference to all others. In preparing the sand for these cores it is spread out over the floor or bench, and the flour is spread over it so as to mix with it as thoroughly as possible. It is then mixed, wet and tempered when dried. For these cores the same kind of cores.

Sour Beer Cores.—This term is applied to save the same kind of cores.

paste and boiled with a jet of steam turned into it from the boiler; but a flour paste boiled in any other way is equally good. The only advantage in using the steam jet is that it is always handy, and that there is no danger of burning the paste with it. After the flour has been steamed or boiled, the paste is thinned down with water and the sand is tempered with it. In this way a more thorough mixture is obtained, and a stronger and better core is made with less flour than is required when the flour is used more thorough mixture is obtained, and a stronger and better core is made with less flour than is required when the flour is used in its raw or dry state. The steamed flour cores are harder than the raw or dry flour cores, and will not generate as much gas as these, nor will they draw dampness from a green-sand mold so rapidly. Any ordinary core may be left in a green-sand mold for green-sand mold so rapidly. Any ordinary core may be left in a green-sand mold for one or two days without any danger of its blowing when the mold is poured. For the steamed flour cores, any kind of flour may be used. I think the steamed flour core is the best that can be made for general foundry nurposes.

"The condrom to the charcoal cores.—Very small cores are sometimes made of charcoal. In this case the charcoal is cut into any desired shape and put into the mold in the same way as a dry-sand core. Before putting this kind of core into a mold the charcoal should be poured soon after the core is put in, in order to prevent the foundry purposes.

Loam and Sand Cores.- This term is applied to dry-sand cores, composed of sharp sand, loam and horse manure. In these cores the loam is used in place of flour or other substances for giving attention. other substances for giving strength and adhesiveness to the sharp sand; but if the sharp sand and loam were used alone, the core, when dried, would be so close and hard that the gas or vent could not escape from it, and the casting would be full of

blow-holes. A small amount of horse ma-nure is, therefore, mixed with the sand and loam. When the cores are dried or baked the manure is burnt out, leaving the cores open and porous, and allowing the gas to escape from the surface of the core into the vent hole in the center without boiling or disturbing the molten metal. For this core care must be taken not to use too much loam, as this would make it more difficult to the taken with the vent of and would convent the pattern, if possible, but if the opening to be get the vent off, and would, consequently, formed in a casting is of such a shape increase the risk of blow-holes being formed in the castings. This mixture is principally employed for large cores or dry-sand work. It is not much used for small cores. When

snarp or river sand and dried, it is called a dry-sand core; and if it is made of loam and dried, it is called a loam core. Great care must be taken in preparing the material for and making these cores, for they are often little less rosin than flour is required for the interest in the same quality of sand. The rosin core is a the case in pipe and like castings, and if the core is not properly made the molten metal will not lie upon it, but will bubble and boil, and cause the casting to be full of blow-holes. As these cores are made of different materials and formed in different ways, I will describe them separately, with their respective very large cores. It also throws off a very heavy black smoke after the casting the casting room is filled with smoke, which scribe them separately, with their respective very large cores. is very disagreeable to the workmen. This difficulty may be partially overcome, and the cores made less liable to draw dampness, by baking them perfectly black in the oven be-fore they are used, but in this process care must be taken not to burn them.

Pitch is sometimes used in making dry sand cores, being pulverized and mixed with the sand like rosin in the rosin cores. The pitch cores are about the same as the rosin cores, but they make a blacker and more disagreeable smoke when the molds are poured than the rosin cores do, and for this

reason are but little used.

Molasses Water Cores.—This term is applied to dry-sand cores in which molasses water has been used for the purpose of increasing the adhesiveness and strength of the sand when dried. For this core a coarse open sand is used. It should contain a little open sand is used. It should contain a little loam, but not enough to make a strong core. Molasses water makes a very fine hard core if the right kind of sand is used, but if the sand does not contain sufficient loom, the core, when dry, will not be strong enough to resist the action of the molten metal, but will crumble from the effects of the heat. Care must be taken not to add too much molasses, for this would make the sand very sticky, and would render it difficult to get the cores out of the box without breaking them. By some a little molasses is added to the water used for tempering the sand for flour cores. This makes the cores a great deal harder and stronger than when the sand is tempered with clear water. By others, molasses water is used for sponging the cores after they have been made. This forms a very hard scale on the outside of the core, while the center remains soft and more open, and admits of the gas or vent escaping more freely. If a little blacking be mixed with the molasses water used for structure the outside of cores it assists in

sponging the outside of cores, it assists in scaling the core-sand from the casting.

Glue Water Cores.—This term is applied to dry-sand cores in which common glue dissolved in water has been used for giving advaries according to the quality of the sand and the size of the cores to be made. If the sand contains a little loam or the cores to be made are very large, less flour is used than when the sand contains no loam or when the cores are small, because a very small amount of loam in the sand gives strength and the core, and a small core requires more strength in proportion than a large one. But in either large or small cores care must where there is very little change to get the strength in proportion than a large one.

But in either large or small cores care must be taken not to use too much flour, for when the molten metal surrounds the core the flour generates a great deal of gas and makes the casting more liable to be full of blow-holes. The amount of flour generaliary for if warm water and mixed with the sand while low-holes. The amount of flour generaliary for if warm. The cores are made at once, for if makes the casting more liable to be full of blow-holes. The amount of flour generally used in the common dry-sand flour core is the sand were allowed to lie in a heap for one shovelor measures of flour to from eight to twenty shovels or measures of sand, according to the quality of the sand and the size of the cores. In these cores any kind of common flour is used, such as sweepings from mills, sour or musty flour, and some form the sand mixed with the sand mixed warm water and mixed with the sand while warm. The cores are made at once, for if the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand while warm. The cores are made at once, for if the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant the sand were allowed to lie in a heap for a while before the cores are made it would harden as the water cooled, and if undistant times used in making dry-sand cores. It is dissolved in water and used in the same way

sible. It is then mixed, wet and tempered in the same way as sand for green-sand of sand is used as for the molasses water Steam Flour Cores.—This term is applied to dry-sand cores in which the flour has been steamed before it is mixed with the sand. What I mean by steamed flour is flour that has been mixed with water into paste and boiled with a jet of steam turned into it from the boiler; but a flour paste been steamed to the cores are not much used nowadays, not being considered. cores. Moreover, some core makers are apt to make a slight mistake and get the beer or ale into themselves instead of the cores, especially when it is not very sour.

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for cores. The soft brick, or those that are not burnt much, are selected. They should

the core is put in, in order to prevent the charcoal from drawing dampness and caus-

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The method by which pearl inlavs are nade upon enameled or japanned cast or sheet iron is very simple, and at the same time the results obtained are very striking.

Cast and sheet iron and papier maché are the materials upon which pearl is generally inlaid. If the article be of cast iron, it is well cleaned from the sand which usually adheres to the casting, and is blackened with a coat of varnish and lampblack. When this is thoroughly dried, a coat of japan or black varnish is spread evenly upon it. Before the varnish becomes too dry, pieces of pearl cut in the form of leaves, roses or such flowers as the fancy of the artist may dictate, or the character of the article may require, are laid upon the varnish and pressed down with the finger, and they im-mediately adhere to the varnished surface. mediately adhere to the varnished surface. The sheets of pearl may be obtained so thin as to be more like paper than anything else. After the pieces are in place the work is put into a heated oven and kept there for several hours, or until the varnish is perfectly dried. It is then taken from the oven and another coat of varnish applied in discriminately on the surface of the pearl and the previous coating, and again placed in the oven till dry. This process is repeated several times, until the thickness of the varnish is such that top of the pearl is level with the body of the varnish, which is then scraped off the pearl with a knife, and the scraped off the pearl with a knife, and the surface of pearl and the varnish around it are found to be quite even. The pearl is then rubbed with a piece of pumice-stone and water, and the surface of the varnish is rubbed smooth with powdered pumice-stone, moistened with water.

It is in this unfinished state that the pearl

It is in this unfinished state that the pearl has the appearance of being inlaid, and from which it derives its name. It is, in fact, inlaid in the varnished surface, to which it adheres with surprising firmness. Its final beauty and finish depend altogether on the skill of the artist under whose hands the shapeless and almost unmeaning pieces of searless made to save the form to be heart. earl are made to assume the form of beautiful flowers, leaves, &c. The artist traces the stems and leaves of the flowers with a camel's hair pencil dipped in a size made of varnish and turpentine; upon this he lays gold leaf, which adheres where there is size, and the superfluous gold is carefully brushed off with a piece of silk. The flowers and leaves are then painted in colors, and when dry the picture and surface of the article are covered with a coat of refined white var are covered with a coat of refined white var-nish. One point should be observed, which is too frequently forgotten by those who paint upon pearl in this country, and that is to use only transparent colors when paint-ing on the pearl itself. This is the secret of the great brilliancy obtained in most of the European work upon pearl.

The kinds of pearl used are three—mother

European work upon pearl.

The kinds of pearl used are three—mother of-pearl, in the pearl oyster, or white pearl, as it is called by the artist, and it is known by its clear white surface; aurora shell, which can readily be told by its wrinkled appearance and its various prismatic colors, and is made from the shell of the genus of and is made from the shell of the genus of Mollusca known as the sear-ear or ear shell, and known to the conchologist as Haliotis; the green snail shell, which can be told by its glistening colors of light and dark green,

or soft yellow and bright and beautiful pink, blended together.

To manufacture the pearl ready for inlaying, the workman cuts the rough shells in pieces with saws, and then grinds the pieces pon both sides upon a common grindstone upon both sides upon a common grindstone until they are of the requisite thinness. Out of these pieces the artist cuts the forms of leaves, flowers, &c., with a pair of common scissors preparatory to placing them in the varnished surface. The necessary forms the varnished surface. The necessary forms may be cut from the thin pieces of pearl by means of a punch and dies, with power applied by the foot of the operator. When a number of pieces are required of the same size, the pieces may be fastened together with glue as one solid plate, and then the required form marked upon the outside one; then these being held in a vise the form then these being held in a vise, the form can be carefully sawed out with a fine saw. By placing the cemented pieces in warm wa ter, the glue softens, and the shells are easily separated and the glue washed off. The artist is no longer under the necessity of preparing the shells for himself, as they can be obtained all ready for use at almost any artist's material store in the country.

This art of inlaying is not confined to the representation of flowers alone; landscapes with houses, castles, trees, churches and bridges are very easily made, and when represented as being seen by moonlight are very beautiful. The rising moon can be represented surrounded by clouds of gold and silver bronze, and when pieces of pear are placed in certain positions to reflect their colors, the moonbeams are represented as glancing over the landscape in alternate light and shadow

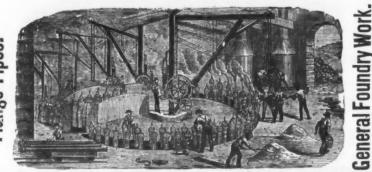
A varnished surface can be ornamented by transferring drawings or engravings to it, and the process is quite simple. A thin coat of copal varnish is spread upon the surface of the article, and when nearly dry the engraving is applied with its face downward and carefully pressed to exclude all air bubbles. When the varnish is sufficiently dry the paper is the roughly moistened with dry, the paper is thoroughly moistened with a sponge_dipped in warm water, and the paper can be rubbed off, leaving all the lines of the print upon the varnished surface. We have sometimes seen an engraving very successfully transferred bodily, paper and all, to a varnished surface. The paper seemed to be inlaid in the varnish somewhat as the pearl is in the process just described. Its appearance was of course much better than that from engraving laid upon the var-nish while soft and then varnished over in the usual way. It should be noted that if the paper is to be mounted under the var-nish it should be sized to permit the "striking through."

A dispatch from Berlin to the London Standard says that steps are being taken to form a Petroleum Boring Company to work

the newly-discovered oil wells in the Hanover etroleum region, the present bores yielding n average interest of 22 per cent. upon the apital invested.

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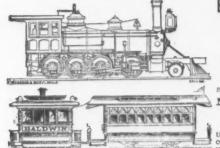
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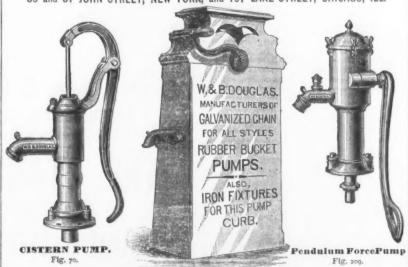
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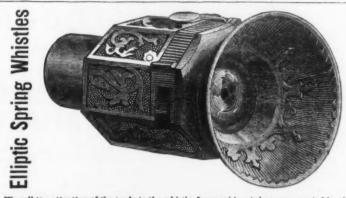
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PATENT ELLIPTIC SPRING.

which is much less liable to break and get out of order than the spiral spring usually used. These which is find the session to breath are very strong and durable. They are offered in a variety of styles at very reasonable prices. Send for illustrated circular and quotations.

We also invite an examination of our PATENT REVERSIBLE DOOR LOCKS, which by their peculiar construction, combine simplicity, strength and durability. In these Locks the combination of the Patent Lever and Spring renders the latch movement very easy and prompt in

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National Association of Stove Manufacturers.

The National Association of Stove Manufacturers, at its meeting last week, of which brief mention was made in our last issue, took action on the subject of prices which, we think, will be generally satisfactory to the trade. From the full report of its proceedings published in The Metal Worker, we take such portions as are likely to have most interest for the readers of The Iron Age.
General Rathbone delivered the follow

GENTLEMEN OF THE ASSOCIATION: In the printed report of the meeting of this association, held at Rochester last winter, the speaker is reported to have said: "I am confident that increased prosperity is to come to our country. The time is not far distant when the manufacture in which we are engaged will be as profitable as that of others of the great industries of this country. We have, as a nation, the balance of trade in our favor. Our exports are largely in excess of imports, and with the resumption of specie payments the business outlook will steadily and surely improve. I trust and believe that when we meet a year hence we shall have reason to congratulate ourselves upon the improvement in our business which is now predicted."

While it is not proposed, gentlemen, to claim the gift of prophecy, it would not been inappropriate to most heartily congratulate you upon the fact that the opinions then expressed were correct, and that, after long years of depression and unprofitable business, the industry in which we are engaged has again become remunerative.

ble business, the industry in which we are engaged has again become remunerative.

A sound conservatism, it is believed, will accept with much hesitation (if it accepts as truth) the extravagant expectations of many who predict prosperity in our great industries such as were never before realized. The increased price of almost every product would seem to have been too rapid and too who predict prosperity in our great industries such as were never before realized. The increased price of almost every product would seem to have been too rapid and too great to be healthy and permanent.

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orts for 1879 is \$200,000,000 greater than

3. The report of the Commissioner of Agriculture, recently published, gives sta-tistics showing that the value of the crops

alone for 1879 exceeds the value of 1878 by more than \$400,000,000.

While one may not be disposed to contra-dict these statements and admit the fact of a superabundant currency, it must be coneded that therein lies the danger. Immod-erate speculation will be encouraged, which will, unless checked, prove as disastrous as those times which many of us remember. Most, if not all, of those present here, will probably agree with me in the opinion that the views advanced by President Hayes and the Hon. Secretary of the Treasury, with reference to the preyment and with with reference to the payment and with-drawal of legal tenders, are eminently wise. The policy, as well as the honesty of paying debts when we have the ability to do so, would scarcely seem to be a question open for discussion among intelligent men of business, when the legal tenders shall have been paid and these paper promises of the Federal government, which were called into being as lawful money only by the exigencies of a gigantic civil war, shall have been redeemed, the most part of the most part of the state of the s then we shall in truth and indeed have re-sumed specie payments. The suggestions of

be foregotten that but a limited quantity of Scotch can be used in the manufacture of good stoves, that English irons from the Middlesboro district are reported as cold short, and that with high prices for American, foreign iron will proportionately advance. The boro district are reported a that with high prices for American, foreign from will proportionately advance. The opinion may here be hazarded that the price of good foundry iron will reach \$45 before the 1st of May next. A much higher price is predicted by many. With the advance in pig iron is to be added a corresponding advance in rods, bolts, and almost every article used in our manufactures. These large advances are to be deprecated, but are unavoidable, and in view of them, the unpleasant duty of advancing the price of stoves to an amount equal to the increased cost of manufacturing, and the uncertainty as to the future of the iron market, true wisdom indicates a policy firm but conservative, and it is confidently anticipated that the result of our present meeting will be the adoption of wise suggestions, that a carried

complain that the profits were excessive—had it not been for the organization of this association and the personal efforts of some of its members. Your attention is directed to it, that we all may more fully realize its

In the autumn of '78, owing to the large

and at their own expense made two journeys, visiting Buffalo, Detroit, Chicago, Cleveland, Cincinnati, St. Louis, Pittsburgh, Philadelphia and New York. At those cities they met in consultation with the manufac-turers. The result of their efforts was to establish prices and in the saving of a very large amount to founders, and made possi-ble the advance in prices in the autumn with the increased cost of iron. We cannot but feel that the thanks of this association are due to these gentlemen for their gratuitous services, which contributed so largely to our common prosperity.

A feature of our business, which is be coming alarming, is the making of new pat-terns. Reference is not here made to stoves embracing new elements of excellence or beauty of shapes, but the habit of changing the dress of stoves already admirable in design and perfect in working, thus involvthe sign and perfect in working, thus involving the expenditure of large amounts of money which should be saved. The example of the largest manufacturers in this respect must be imitated by all, or those failing to do so be obliged to sell unfashionable goods at reduced prices. The dress of the stove must be changed like the bonnets the stove must be changed like the bonnets of the milliner, and it is suggested, if this habit is to be continued, that, like the milliners, our spring and fall "openings" be publicly announced. The evil, gentlemen, is a serious and a growing one. It is not confined to the cost of the new pattern, but to great loss occasioned by old stock, which must be sacrificed, and to the remelting of old plates which always accumulate. ing of odd plates which always accumulate. But this is not all. It necessitates the carry ing of a large stock by the manufacturer, which, before the era of such frequent changes in patterns, was borne by the dealers (they will not incur the risk of holding last year's patterns); and, too, the endless and vexatious trouble of describing repair plates when needed

would seem to have been too rapid and too great to be healthy and permanent.

The arguments advanced by the advocates of high appreciations of value are:

1. That the large amount of circulating medium, which has been enhanced by the addition of gold to our currency, makes our circulating \$400,000,000 greater than it was at the highest period of inflation.

2. That the excess of exports over imports for 1879 is \$200,000,000 greater than it was at the highest period of inflation. after full discussion, reached the same conclusion. It will be noticed that the principle involved in the opinion of this association, embodied in the resolution passed at our meeting held at Rochester last winter—"That not more than 10 per cent. of the total number of able-bodied convicts in any State should be employed in any one line of manufacturing industry," and which your Committee on State Prison Labor earnestly appealed to the Legislature of this State that it might become a law—has, after careful it might become a law—has, after careful consideration, been adopted by the late Controller and the Prison Association as the most reasonable solution of the problem of convict labor. The suggestion is placed be-fore you that measures be adopted at this meeting to urge the passage of laws in the different States in accordance with the spirit of the resolution of last winter.

In connection with this subject it may properly be said that it has been urged by many that laws be passed to so graduate and increase the wages of the convict, ac-cording to his skill and ability, that the disparity between his wages and those of honest workmen be less severe, thus securing to

the prisons a larger profit.

The era of large profits in our business, such as marked the period from 1862 to 1873, has, in my judgment, passed forever. It must be conducted in the future at a smaller then we shall in truth and indeed have resumed specie payments. The suggestions of the President, if adopted by Congress, would prevent the wild speculations which are invariably engendered by an inflated currency, and do much to render the business of this country stable and prosperous.

The present condition of the iron market is anomalous, and is a suprise to all, and especially to the makers of iron. While it is believed that speculation has had much to do with the sudden and sharp advance which has taken place within the last three months, it must be admitted that the new railways to be built and the general increase of manufactures in which iron is employed may create a demand so large that the suppy of domestic pig will prove inadequate. To what extent foreign iron will affect the price of American is uncertain, but it must not be foregotten that but a limited quantity of percentage of profit, and that will be secured rigidly held, and the refusal to consider statements as to prices of competitors un-

supported by proof.

The laws for the collection of debts in the

able, and in view of duty of advancing the price of stoves to an amount equal to the increased cost of manufacturing becomes imperative.

The business of the year 1879 would have been much less profitable than it has been-although perhaps none of us have reason to although perhaps none of us have reason to and labor employed.

Mr. John S. Perry read the following repeat on

MR. PRESIDENT AND GENTLEMEN: The circumstances under which we are now

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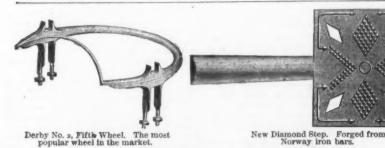
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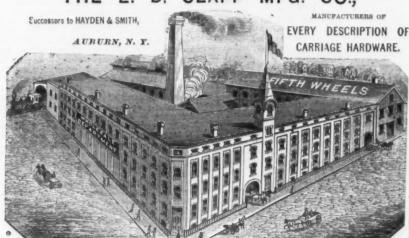
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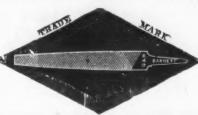
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The Purity and Strength of this Coal especially adapt it for the working of Iron and Metals.

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ing Cutters and Special tools to order. All Tools exact to Whitworth Standard Gauges. GEO. R. STETSON, Supt. EDWARD S. TABER, Tres



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ESTABLISHED 1836.

Trunk Locks. Pad Locks,
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THE ANSONIA CORRUGATED STOVE PLATFORM. With Patented O. C. Border.

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no nailing or lining, the edge retaining its form. Superior pattern, finish and quality, Price as low as any.

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THE ANSONIA STOVE REST.

Cut Showing Round Platform



inch thick, covered with sheet metal in sinc, brass and nickel plate. Highly polished and finished. Packed one set of 4 pieces in each paper box, and 35 sets in each paper box and a set of paper box and a se Sizes (inside of circle

2, 2½, 2¼, 3½ inch. Send for full Description and Prices.

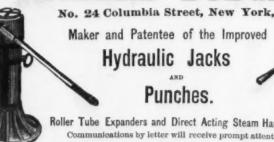
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Years of experience have demonstrated the Fact that no

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Formerly manufactured by

CLAUDIUS JONES & At Bridgeport, Conn., Have Removed to ERIE, PA.

This is the most successful Rat and Mouse Catcher on the market. Send for Price Lists.

was recorded as 8,000,000. It is, therefore, not a "flight of fancy" to assume that 9,600,000 families in these United States are to-day more or less dependent on us for their stoves and other culinary articles. And, further, it is believed to be a safe estimate that 200,000 families more will be added to this vast number during the present year, and perhaps an equal number annually during many succeeding years. The immigration to these shores through the port of New York alone in 1879 shows an increase of 70 per cent. over that of 1878, and the number is still increasing.

The area of our agriculture during the past

eight years has extended not less than 30,-000,000 of acres, and it is fair to assume that 4,000,000 of acres in addition will be brought under cultivation annually during the present and succeeding years. The products of our soil have been almost fabulous in amount, and we may look with a reasonable certainty to a gradual increase in the

Our domestic manufactures are rapidly

Our domestic manufactures are rapidly enlarging, and are growing in favor with foreign nations. The mountains continue to yield rich returns to the labor of the miner and give no indications of exhaustion. The South is rapidly recuperating, and opens to us an ever-widening market.

Our system of railways is being rapidly extended, consuming vast amounts of iron and opening to settlers untold acres of virgin soil. Vast treasures of gold are being showered upon us by foreign nations in payment for our products, thereby increasing our wealth and hastening the day when this Empire City shall be the financial center of the world.

What have we to place upon the dark side

What have we to place upon the dark side of the picture? We may anticipate disasters to our crops, an absence of foreign demand, financial difficulties, war or pestilence, and it is a mark of wisdom to keep in mind such possibilities and to be prepared for them; but it is not, in my judgment, a mark of wisdom to be always anticipating disaster, thus crippling our energies, when there is every reasonable indication of pros-

Another marked difference between our present condition and that of 1872 is in the relative prices of iron during the eight years preceding each epoch. From and including 1864 to 1872 the yearly average price of No. 1 foundry iron ranged from \$59.25 to \$33.25, the total average for those eight years being \$43.08 From and including 1872 to 1880, the

STOVE RESTS are designed to place under the feet of Stoves and Ranges, for the purpose of raising them from the floor or platform. They are about 4-tiple the feet of Stoves and Ranges, for the purpose of raising them from the floor or platform. They are about 4-tiple the former epoch was 52.4 per cent. higher than during the latter. For 22 years

0	
At \$20,00 and under during	
Above \$20,00 and under \$25.00	II years.
Above \$25.00 and under \$30.00	
Above \$30.00 and under \$35.00	.3 years.
Above \$35.00 and under \$40.00	
Above \$40.00 and under \$45.00	
Above \$45.00 and under \$50.00	
Above \$50.00 and under \$55.00	o years.
Above \$55.00 and under \$60.00	year.
	NAME .
	38 years.

The lowest yearly average during this time was in 1878, which was \$17.63; the highest in 1864, when it reached \$59.25.

		Tons.
•	The product of our blast furnaces in 1872	
	was	
	The importations that year were	193,957
	Total	2,493.957
6	The domestic product of 1878 was	2, 301, 315
	The importations	66,503
	Total	2,367,818
	The domestic product of 1879 is estimated	
	at	2,800,000
	The importations	275,000
1	Stock on hand January 1, 1879	513,000
	Available stock for 1879	3,588,000
	This is the largest supply for an	v vear
	and not me outen un	

upon record, and yet we enter upon 1880 with depleted markets. Instead of some 40,000 tons piled upon the banks of the Hudson, these banks are literally bare. In 1878 we had in existence 712 blast furnaces,

January last, 677 furnaces, and that 384 These questions of cost and planuary last, 677 furnaces, and that 384 really all of any special importance that call were in active operation, the same being a really all of any special importance that call were in active operation. were in active operation, the same being a larger percentage than at any time since it stogether. I trust that a full expression may be given to them by every member at this meeting.

Mr. Fuller paid a high compliment to Mr. that the product for the present year will

reach 3,500,000 tons.

We have more furnaces than visible ore to supply them. About 300,000 tons were imported in 1879, and it is estimated that the amount will reach 500,000 tons during the present year. Lake Superior ores, I eb-serve, are held at \$12, delivered in Clevethe present year. Lake Superior ores, I ob-land, and \$15 in St. Louis. To this must be added the expense of transportation to the furnaces. No cheap iron can be made at furnaces. No cheap iron can be made at

That the consumption of iron is rapidly increasing, no one can doubt. In 1872 we built 7623 miles of railway: in 1879 we added 3700 miles. It is estimated that 7000 miles will be constructed in 1880. On a basis of a consumption of 150 tons to the mile for track, rolling stock and fixtures, this would call for 1,050,000 tons. The

do not think it safe to base our action upon terial they consume and the labor they emany sum below \$35.

years, as estimated by the superintendant of the census, about 8,000,000 have been added. Years they were fairly maintained. The losses of the past were regained, and the mean number added to that of 1872, which was recorded as 8,000,000. It is, therefore, not a good foundation; but the disasters of 1873 and five unprofitable years of depressions. came, and five unprofitable years of depres

sion followed.

We are now somewhat in the same condition as in 1872. Profits have been light; iron is \$40, with an upward tendency, and we are now gathered together to decide for the future.

In respect to the cost of stoves, I hesitate In respect to the cost of stoves, I nestate to add another word to previous statements, fearing that the manufacturers of the country are tired of them. I will, however, quote from my address in 1872, the truth of which has been confirmed by a further experience and observation of eight years. I

"I believe the average cost of the cheap-est grades of stoves in 1871 was not less than \$115 per ton, and from that to \$130 or \$135, according to the kind and quality; and that during the present year (1872), estimating iron at \$40, which is considerably below the present quotations, the cost

will range from \$120 to \$140.".

I have failed to meet the first manufaccurer who, after a careful examination of his books at the end of the year, has not cor-roborated this general statement.

At our last meeting, held in Boston in June, I was called on to explain my statement "that in 1843 a profit was realized at 2½ cents with iron at \$25; while with iron at \$18 in 1879 I believed there was ordinarily

I did not at that time have the figures, and was unable to reply with much exactness. With the permission of the meeting, I will now answer the question more fully.

	1847.	1870
Allowances of various kinds	\$0.20	0.7
Advertising, catalogues, circula	rs	
and other printed matter, woo		
cuts and electrotypes		9.2
Bad debts		2,50
Coal for melting, making steam	m	8.30
and heating Cupola men, breaking iron, who	2.50 el-	1.75
ing, &c	50	.84
Charcoal and wood	15	.20
Clerks	75	2.00
Cartages	7 5	.35
Commercial travelers and expen	15	2.50
Castings discarded	40	1.50
Costs and legal services	10	.20
and piling castings		3,00
Engineers	15	.25
Facing	80	1.20
Freignt		. 50
Flux	30	.19
General labor.	. 1.20	2.00
Gas and oil		-35
Iron		18.00
Insurance	30	.60
Interest and discount for cash		5.00
Molding, including foreman, and	1	
more or less day work	, 8.00	24.00
Mounting, including foreman and	i	
more or less day work	. 2.00	10.00
Machinery	10	.25
Postage		.50
President and secretary	1.20	2.00
Patent fees and legal expenses	6	
relating to same	20	.50
Patterns and flasks and repairs		1,20
on same		7.00
Rods, bolts, wire, malleable iron.		1.00
scrapers, cement, wood handles		
tin and copper work plated		
tin and copper work, plated knobs, &c	. I.10	5.00
Repairs of buildings, machinery		2100
cupola, &c	.25	-75
Rents and taxes		3.00
Sand and clay	,40	.50
Stationery and books	90	.49
Sundry, freight, expressage and		1.00
telegraphing		4.5
Sundries, including stealings and		-45
petty losses and expenses of		
various kinds	2.00	1.60
Traveling		
Tools, files, grindstones, emery		.50
		-
wheels, belting, &c		2.50
Watchman	25	•30
Total	00.	
Total		\$204.00
The statement of 1843 sh	ows a	cost of

about 23/2 cents. I well remember that our prices for stoves that year ranged from 2 % to 3 4 cents, and that we made a satisfactory profit.
The statement of 1879 shows that with

iron at \$18, our stoves cost \$104. It is my opinion they cost more, taking the contingencies of one year with another. With iron at \$35, stoves will cost the present year \$121. With iron at \$40, they will cost \$126, \$121. With iron at \$40, they will cost \$126, and this without adding much for the advance in other things. The minimum price for stoves should be 7 cents for the lowest grades, with the cost of the mountings added and a reasonable profit on the same. But as the country may not be ready for so large an advance, I suggest that the price be established at 6½ cents, leaving it for man-Hudson, these banks are literally bare. In 1875 we had in existence 712 blast furnaces, of which 263 were in operation; in 1879 we had 690, 257 being in operation.

It is estimated that we had, on the 1st of January last, 677 furnaces, and that 384

These questions of cost and price are

Perry's accuracy, and to the value of his views as presented in the papers he had read before the association, and said that he considered this one, perhaps, the most interesting and important of any to which the association had listened. He moved

Mr. Spear asked it Mr. Ferry had mean it to be understood that the cost of nickeling such stoves as the "Westminster," "Crowning Hory," "Crown Jewel," "Splendid," &c., was only \$5 per ton.

Mr. Perry replied that the average cost of material which enters into the mounting of stoves, nickeling included, exclusive of labor, is about \$1.7 per ton.

bor, is about \$17 per ton.

Col. Warren asked why Mr. Perry held
the opinion that he expressed that the counthis would call for 1,050,000 tons. The annual renewals of 101,455 miles of track is estimated at 650,000 tons, showing a total estimated consumption for our railway system of 1,700,000 tons of iron for 1880.

As a comparatively new article of confirm and castings had advanced in proportion to the cost of iron and labor: hardware locks, wire and nails, and nearly all the estimated consumption for our railway system of 1,700,000 tons of iron for 1880.

As a comparatively new article of consumption, it is stated that 20,000 tons was absorbed in steel fencing wire in 1879.

From these few suggestions, with which most of you are doubtless familiar, some just conclusions, perhaps, may be formed in regard to the cost of iron for the year. I do not think it safe to hase our action most of the cost of manufactures were locks, wire and nails, and nearly all the other products of iron had advanced in some instances more than 100 per cent. Why should not the stove men get as good prices as others in proportion to the cost of manufactures.

ploy.
Mr. Perry replied that in his judgment the For some years prior to 1872 the prices for stoves were unremunerative. In March of that year, when we held our first convention, iron was \$40 and advancing. We stablished our prices at 7 cents, 7% cents, Cutterp.

ANN & LAUTERJ



And the "ELECTRIC SHEARS." Nickel Plated

Agents for the BENGAL RAZORS. AMERICAN TABLE CUTLERY, BUTCHER KNIVES, &c.

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423 N. Fifth St., ST. LOUIS, Mo.

MERIDEN CUTLERY COMPANY.

THE "PATENT IVORY" HANDLE TABLE KNIFE, The oldest munifacturers of Table Cutlery in America. Exclusive for Table Cutlers. A most beautiful and perfect substitute for Ivory. BUTCHER AND HUNTING KNIVES. Illustrated catalogues with price of the company of th



AARON BURKINSHAW, Established 1853. Manufacturer of Pen and Pocket Cutlery, Pepperell, Mass.

THE VICTOR LAMP TRIMMERS The Celebrated VICTOR Cast Shear SOLD HARDWARE & NOTION DEALERS EVERY-WHERE . Special Attention given to orders for export The best in the Market Manufactured by Manufactured by
THE RENZ HARDWARE CO. Bridgeport, Cons
Send for East and Discounts. THE RENZ HARDWARE CO. BRIDGEPORT, CONNIISA.

HENRY SEYMOUR CUTLERY CO. SHEARS AND SCISSORS.

Manufactory, HOLYOKE, MASS.

JOHN WILSON'S CELEBRATED

TRADE MARK PEPPERCORNS AND A DIAMONO. GRANTED A D 1766 BY THE

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RECISTERED ALSO AT WASHINGTON U.S.A. ACCORDING TO ACT OF CONCRESS ALSO AT LEIPZIG, IN

MIRKS REGISTRATION ACT.

BUTCHERS' KNIVES, BUTCHERS' STEELS, SHOE KNIVES.

It having come to the knowledge of JOHN WILSON that Counterfeit Butchers' Knives, purporting to be of his manufacture, are being sold in the United States, he hereby cautions all purchasers of his Knives and Steels to be on the alert against such imposition

JOHN WILSON also hereby gives Notice, that it is his determination to institute Legal Proceedings against any person or persons who may be detected infringing his Trade Mark.

Every article of JOHN WILSON'S manu-ture, bears the Trade Mark, in addition to the Name.

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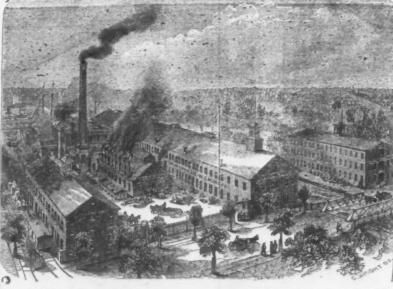
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In the West there was no stock of iron anywhere. He did not believe that pig iron would go above \$40, but that it might stay at about that figure for some time.

The Frith of Forth Bridge.

its class in the world was laid by Mrs. Bouch, on the little island of Inchgarvie, on Sep-

tember 30, 1878.

The bridge will commence on the south bank of the Forth at Newhalls, cross the river by the west end of Inch Garvie Island, reach the Fife shore at the North Ferry Coastguard house, and terminate at the Old Quarry slope, a little to the north of North Queen's Ferry, the length of the bridge being east coast will, as compared with the Stirling

Quarry slope, a little to the north of North Queen's Ferry, the length of the bridge being 2620 yards, or thereabouts.

Starting from a stone abutment on the south side, the foreshore will be cleared by three spans. The fourth column will be built in shallow water, and ten spans will carry the bridge over the gradually deepening water until the southern anchoring towers are reached. Three spans more will carry it to a suspension tower, built in 33 feet of water on the edge of the sudden dip which the bed of the Frith makes at that which the bed of the Frith makes at that point. Between this tower, the top of which will be 560 feet above high-water mark, and Inchgarvie, there is at high tide a depth of water of 186 feet, and over this the bridge makes its first great leap of 1600 feet in a single span, 150 feet above high water, to another suspension tower built on the southern slope of the island, in water between 70 and 80 feet deep. The latter will attain an altitude above high water of 597 feet. A similar tower, built on the northern side of the island, on a rock called Craigsperry or the island of the partially dry

the demand, inasmuch as there is no disposition on the part of the dealers to purchase stoves in a speculative way. Again, many feared that the price of iron would not be sustained, and should it decline, buyers would demand a reduction in the selling prices of stoves to correspond. He thought it much better that they should ask prices which could be maintained. He asked for Mr. Filley, in reply, said that his opinion was good for nothing. He had been mistaken right along from the first, and no doubt was mistaken still. He did not see how prices could be sustained, but they have been sustained, and therefore he felt that his judgment in the matter was utterly worthless. Mr. Mott was next asked for his views upon the subject of iron.

Mr. Mott replied that probably he would be regarded as prejudiced in favor of higher prices. The position of the trade to-day reminded him of an old saying, that "If one's foresight was as good as his hind sight, his judgement would be better by a d-d sight." It had always been his policy to buy iron in excess of his requirements. He had done so every year, and for several years past had lost money by it. It hapbuy iron in excess of his requirements. central towers, will be anchored in the girder He had done so every year, and for several years past had lost money by it. It happened, however, that he had a large stock be lattice, 40 feet high in the center and 19 of iron on hand when the boom struck him feet high at the ends. There will be two be lattice, 40 feet high in the center and 19 feet high at the ends. There will be two main girders 16 feet apart, center to center, braced top and bottom, for each span of single line of roadway; and the two roadways, three or four years of the most prosperous business the country had ever seen. Personally, at present, he had no desire to sell any goods. He had instructed his salesment to sell as little as possible and to send out no travelers, as he would rather hold for an advance than to sell at the best prices now obtainable. His confidence in the future of iron was so great that he had bought up to \$38 on speculation. While he had considerable iron on hand, he had none for sale under \$45. If any of the gentlemen present wanted any at that price he should be happy to supply them.

Mr. Bradley was next called upon for his views upon the question of iron, and replied that he had but little to offer. He had learned that there were large stocks of iron held on speculation in the East, not only by such operators as his friend, Mott, but also by dry goods men, sugar retiners and others who have no connection with the trade. such operators as his friend, Mott, but also by dry goods men, sugar refiners and others who have no connection with the trade. In the West there was no stock of iron anywhere. He did not believe that pig iron would go above \$40, but that it might stay at about that figure for some time.

The Frith of Forth Bridge.

Converge to the ends of the girders, provision being there made for riveting the ends of the ties to the girders. The links of the whole of the chains will be formed of high-class steel bars, and connected with steel pins. The suspension bars, the oblique tiebars, and the vertical bars between the central towers, will also be of the same quality of steel. The back or anchoring chains, and the horizontal chains between the central towers, will be trussed. The roadway, to be

The undertaking is no doubt stupendous, but a bridge across the Forth is absolutely necessary to the completeness of the railway system of the country, and particularly to that of the North British Railway Company. When it is finished there will be an unbroken route from London to Wick. The distance between Edinburgh and Montrose,

-The Railroad Gazette, in a summary of the accidents to trains during the year 1379, reports that derailments due to the breaking of rails were more numerous than for three years preceding 1879, and have been exceeded in but two years of the seven, as the following table will show:

ACCIDENTS FROM BROKEN RAILS FOR SEVEN YEARS.

the island, on a rock called Craigsperry or Sparrow Craig, which is left partially dry at low tide, will be reached in two spans of 165 feet each. From this tower the bridge will make its second leap of 1600 feet, across a channel with 210 feet of water, to the northern suspension tower. The remainder of the bridge will be carried to columns built upon dry land. It will reach the northern anchoring towers in three spans, and nine

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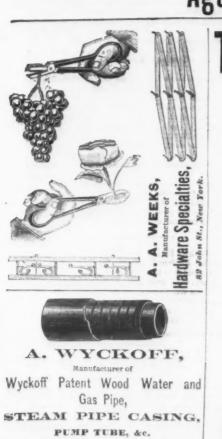
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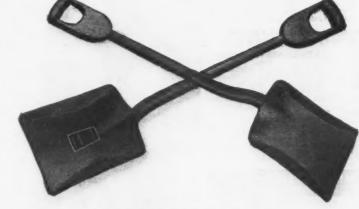


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this cause in the cold and hot quarters of the year are given below for the past seven The committee, however, appeared satisfied and believed that the only hypothesis now left to committee that the only hypothesis now

That is, in the aggregate for the seven years there have been 8½ times as many accidents from broken rails in the quarters

including January, February and March as in the quarters including July, August and September. We may add that the total of the train accidents for the year 1879, as reported by the Railroad Gazette, amounted to 910, which is considerably more than those of the preceding year, when 740 were reported. The loss of life was smaller in the year just closed, netwithstanding the high number of accidents.

The Explosion of the Thunderer 38-Ton Gun.

On the 2d of January, 1879, during a gunnery trial in the Sea of Marmora, one of the 38-ton guns of the English iron-clad Thunderer burst, killing 10 men and wounding 32. The cause of the explosion was inwhen the capts in of the turret, in doubt, had both guns depressed, one to be loaded and the other to be tested with the rammer and the other to be tested with the rammer and returned if the charge was home, they loaded both and sent them back. That the tell-tale on the loading apparatus which indicates when the shot is home did not give notice that the charge was still in the bore, was at least curious. The matter was disagreeably complicated by the discovery on the Dreadnought that when a gun, depressed to such an angle as the ordnance in the latest the Dreadhought that when a gun, depressed to such an angle as the ordnance in the latest built turret ships has to be when hydraulic loading apparatus is employed, is loaded with common shell, the projectile will slip forward when the rammer is withdrawn unless some appliance is used to keep it in its place.

Against the theory of an explosion due to a double charge, Sir William Palliser maintained, in an interesting pamphlet, "that only one charge was in the Thunderer's gun when it burst; that this charge consisted of seventh of rowner shell of some when it burst; that this charge consisted of 85 pounds of powder, a common shell of 590 pounds, and a papier-maché disk i inch thick and 12 inches in diameter; that the shell jammed over this disk at a point about 7 feet from the breech end of the bore, and thus wedged open the steel tube, and that the pressure of the fired gunpowder subsequently blew the gun into pieces." The lesson of the explosion, he contended, was that the strong but brittle steel tubes should be bored out of the Woolwich or Service guns and replaced by coiled, yielding wrought the length of the bore: in the Thunderer it wads and the studs on the projectiles to take
the riffing. The gun also stood the test of
firing with a space of 5 feet between the
powder and shot.
On the 5th of December the "Thunderer

Experiments" were begun in the government marshes adjoining the Royal Arsenal, Woolwich. The sister gun of that which exploded on the Thunderer was mounted on an ordinary naval carriage and platform in in a cell 10 feet wide and 30 feet long, com-posed of timber beams overlaid with pig iron and several feet of cement, with earth heaped all round, making a mound 35 feet feet high and 200 feet round. The powder employed—an important question in these days of poudre brutale, Fossano and German mild powders—was F2, consisting of cubes an inch and a half thick. One round identical with the service conditions was first fired, and one with 110 pounds of powder and a 704-pound shell, to obtain a standard day in 1880? for the succeeding rounds in respect to the pressure set up. Then the gun was fired with a space between the cartride and shot, Twenty-five Cents, 30 Off.—An expression set up. Then the gun was fired with a space between the cartride and shot, beginning with I foot and going on till the base of the shell was to feet in front of the cartridge and its nose 2 feet from the muz-

obtained by experiment, and the argument by induction therefrom, the gun didn't burst, nor "By George," he said, when he was telinduction therefrom, the gun didn't burst, nor "By George," he said, when he was tell that it takes at least five rounds to effect a nuts, anyhow."

with a double charge of 80 and 110 pounds of powder and one 600-pound common shell and one 700-pound Palliser projectile. The muzzle of the gun and the projectiles were buried in the sand at the proof butts. The remainder of the gun, with the exception of its base, was blown to atoms.

How England Could be Starved Out in Case of War.

The London Saturday Review makes the following significant admission in an article on England's vulnerability:

It has often been asked by protectionists what England would do if she found herself at war with another maritime power. So long as America is able and willing to send us as much corn as we want, it matters nothing to the consumer whether or not it pays the English farmers to grow corn. If it does not, that is only a reason why the farmer should grow something else instead. If the Ameri-can producer can undersell him in wheat, or even in beef, he may in his turn under-sell the American producer in vegetables or the 38-ton guns of the English iron-clad Thunderer burst, killing 10 men and wounding 32. The cause of the explosion was investigated by a committee appointed for the purpose, the members of which reported on the 9th of February: "That the gun having missed fire when loaded with the battering charge, was again loaded with a full charge, and fired with both of the charges and the projectiles in the gun at the same time." The battering charge being 110 pounds of powder, and with the 700-pound projectile making a mass several feet in length, it seemed at first inconceivable that these should have been supposed to have been fired when they were still in the bore. Such an accident, however, was not quite out of the question. After the gun is fired the fired when they were still in the bore. Such an accident, however, was not quite out of the question. After the gun is fired the muzzle is depressed, so that it points down to the main deck, where it is loaded. The two guns in the turret were intended to be fired at once; one missed fire. Of this the men on the main deck were ignorant, and when the capts in of the turret, in doubt, had both guns depressed, one to be loaded the collected of the nation come at the capts that the test of the state Where would the food of the nation come from during that time? Where, for example, would it have come from if we had found ourselves at war with a great power last autumn? We must either have drawn our supplies from the same quarters which are yielding them now, or have gone without them altogether. One look at the figures which tell of the weekly imports of wheat from the United States, and of that "visible supply" which is to furnish the imports of future weeks, is enough to make this plain. With this source of food closed against them the great majority of Englismen must have starved. The moment that war had broken out, an adversary, if he commanded any naval strength whatever, war had broken out, an adversary, if he commanded any naval strength whatever, would have devoted the whole of it to closing this supply against us. In no possible way could he have served his own ends so well, or compassed our defeat so easily. Supposing him to have succeeded, there would have been nothing for it but to sue for peace. If once the government had been confronted by the alternative of subfor peace. If once the government had been confronted by the alternative of submission or famine, no amount of resolution would have availed them anything. They might have been willing to choose famine in their own persons, but they would speedly have been set aside in favor of a Cabinet cast in a less heroic mould. No doubt we have a large and very costy navy affect. have a large and very costy navy affoat; that is not denied. But, large as it is and costly as it is, is it large enough to answer be bored out of the Woolwich or Service guns and replaced by coiled, yielding wrought iron barrels. On the 1st of December Sir William Palliser tried some private experiments at Erith with a 3½-ton gun with his favorite wrought iron tubes, firing five rounds with double charges. On a 64-pound shot before a cartridge containing from six the two ways are good as a second containing from the containing fro position to send her whole navy to protect her commerce with food producing counto ten pounds of powder, a second similar load was rammed home. The gun stood the ordeal successfully; it was, however, to be noted that the point of the foremost shot came within half an inch of the axis of the noted that the point of the foremost shot came within half an inch of the axis of the trunnions, whereas, had the Thunderer gun been doubly loaded the point of the hinder projectile would have been a foot in advance of the trunnion axis. Palliser's double-ports and another busy in protecting our own coasts against even the possibility of the length of the bore; in the Thunderer it the length of the bore; in the Thunderer it took nearly five-eighths, not to speak of the further resistance of the gas-checks, two wads and the studs on the projectiles to take the rifling. The gun also stood the test of firing with a space of 5 feet between the powder and shot. fleet would have to discharge, would be, so to say, a first charge on our navy resources. Then, which of the other three is to be neglected? Are we to forego what might conceivably be the only means open to us of crippling our adversary, or to leave our own coast undefended? Or, if neither of these duties is neglected, which of the colonies is it that is to be left a prey to the sudden descent of some daring commander? sudden descent of some daring commander? What is needed, if the food supply of the country is to be really secured in time of war, is a navy strong enough to spare all the ships that are wanted for protection of the grain_ships, without unduly weakening any one of three other fleets that will have

cartridge and its nose 2 feet from the mustle. The bore of the gun was gauged to the
Icooth part of an inch, and no signs of damage or overstraining could be found.

It being thus established that the slipping
away of the shot could not have caused the explosion, the jammed-wad experiments were
tried. In spite of Sir William Palliser's data
the new of the sum of the recent of the could but the price of the could be could be could be controlled by the progressive tried to suit him, and wanted a dozen. The
young man looked at the price list and
found they were listed "25 cents a dozen,
30 off. He gave a low, inverted whistle,
and then with a sudden inspiration he
handed the customer five cents and told him
the could be found.



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A strike of considerable moment to a large number of blast furnaces of the country is in progress at the Connellsville Coke Re- pectations of a large demand from other gions. The cokers were receiving 80 cents per oven for drawing and demand \$1, while the miners were receiving 35 cents per wagon and demand 40 cents. The operators state emphatically that they will stop their works before they will accede to these works before they will accede to these be obtained! These are among the possitions of pig iron, in Scotland, it would be seen that wagon and demand 40 cents. The operators on the American market, with instructions prices. They claim that their contracts all bilities of the near future, and if they are have a strike clause in them, and that there realized we shall see a change which will will be no fear of suits for damages. A make some of those who are holding pig iron representative of Peter Wright & Co. has for \$45 wish they had sold at \$40, or kept been in the city to arrange for the bringing out altogether. If, on the other hand, the in of some Belgian workmen, and it is more effect of the American revival is felt in an than probable that this will be done at once. | increased consumption throughout the world, than probable that this will be done at once. Increased consumption throughout the world, and prices are sustained in Europe on the glad to say that the German deconvenience and expense that the blast furstrength of a legitimate demand upon the advancing, and the probability naces will be under should it continue, and surplus stock in Great Britain, we have the duty we should have as great. the scarcity of pig iron and consequent high nothing to fear. price that must ensue. It remains to be seen

Pittsburgh, combined with its scarcity, has better evidence of the uncertainty of the sary iron steel, &c., had to be supplied to the seeking of other sources of position and prospects of the British iron might be certain of the continuance. supply, not only at a distance, but among the long neglected ore banks of Western ter of our well-informed English correspondwhether manufacturers were putting on such

whether it will continue.

in Youngstown for several years. A movement is under way to bring the Blair County ores, which are used so largely at Johnstown advanced too rapidly and too much anxiety and Hollidaysburg, to Pittsburgh. Butler is not manifested to make large and imme and Clarion Counties have both lately been some old ore mines are being reopened along from Michigan.

The Iron Outlook.

Probably no questions have equal interest for all classes of our readers at the moment with those which relate to the probable course of the iron market during the next few months. The recent history of this trade has been so remarkable that it is not to be wondered at that clear-headed, far-sighted business men are confused, and that they find themselves more inclined to wonder what will come next than to reason out a business policy and follow it. In times like these enthusiasm and confidence are infectious. Few men have sufficient independence of judgment to act as they think best, with out regard to what their neighbors think and do. Naturally, therefore, the prevailing opinion in the iron trade is that the era of prosperity upon which we have entered will last indefinitely into the future, and that prices will certainly be sustained, and perhaps advanced. We are not prepared to dispute this opinion. Indeed, there is much to warrant it. The conditions under which the extension of our railroad system is carried forward, are such that the consumption on this account is not likely to be checked in any important degree by high prices. Consumption for other purposes than railroad construction and equipment promises to continue large for as long a time as we can see into the future. The increase in the production of our furnaces has not equaled expectations, chiefly owing to the lack of adequate supplies of ores; the contracts for ore deliveries after the opening of navigation are being placed at prices which preclude the possibility of cheap iron made from them; and with a very slight ncrease in the demand-such an increase as may be counted on a few weeks hence-we shall, perhaps, come as near to an iron famine as we have ever been in the history of the country. All these facts are certainly elements of strength, and in view of them it is natural that holders of iron are firm in their views, and that predictions of an advance to \$45 for No. 1 in the Eastern markets are freely made and generally accepted as probable. If we had only local onditions to consider, no one would make a nistake who should buy iron even at present prices on speculation; for, considering the exceptionally favorable condition of the country and the satisfactory state of the national finances, there is no reason to fear sudden panic or a collapse without warning. But to know what to expect for the future we must look abroad, as well as at home. For the moment there seems to be but little to fear from the competition of foreign irons in our markets. The decided improvement in the condition of the iron business on the other side, encourages the hope that the amount which can be spared for this country will not be so great as to more than supplement the now insufficient domestic production, and that the prices of foreign irons, if not advanced, will at least be sustained at a point which will cause no interference with the more desirable domestic irons, reflex of the improvement in the United are now making. States, and that the advance in prices is chiefly the result of a quickened speculation, creasing American demand! Suppose from any one of a dozen possible causes the ex- the recent improvement in the iron trade: countries are disappointed, and that to prevent a disastrous decline as much English and Scotch iron as can be spared is unloaded

room the best information we have been able to obtain, it seems to be still too soon there were now building 146 vessels. to answer the questions which this view of of 208,000 tonnage, as against 71 ve The high price of Lake Superior ore at the position of iron naturally suggests. No tonnage of 97,000, at the same of materials would be wanted for the

been so famous for their irons. For some From this we learn what many have susmonths past the Clinton Furnace at Pitts- pected, that the English newspapers have burgh has been receiving large quantities of for some time past been talking as cheerore from the neighborhood of Kittanning, fully as possible about the outlook for iron, on the Allegheny Valley Railroad, in Arm- expecting thereby to effect an improvement strong County, a locality that years ago in all departments of trade. Opinions differ produced a great deal of ore and iron. At as to what may be expected in the future, Wampum, Pa., a very good ore is found but the weight of the best authority seems to that has been used as a mixture at furnaces be in favor of the presumption that the position of the British iron trades will show continued improvement, # prices are not diate profits. When we push our inquiries tapped by narrow gauge railroads, and into the basis of this confidence, however, we find that there is little more definite than these lines. It is not expected that the ore certain vague expectations which may, or from these localities will supplant the Lake may not, be realized. In most cases the Superior ores, but they will be of use as expectations of improvement are based upon mixtures, especially with the soft hematites a large and continued American demand, and on hopes of a larger Continental demand than can now be safely predicted. From among the mass of individual opinions which have reached us from various sources, we have selected a few which, we think, will be of interest to our readers in aiding them in forming an intelligent judgment of the probable future course of the English iron markets.

In a letter dated January 10, Mr. C. E. Muller, of McNeil, Muller & Co., iron merchants and ship owners, Middlesborough-on-Tees, says:

"All's well that ends well," is the best we can say of the past year's trade. With the sunshine of better times upon us, we feel now as if awakened from a distressing nightmare, and, fully sympathizing with the friends who were over-whelmed with misfortune, we begin to forget the troubles of the past—a past which, full of anxieties and losses to masters, and full of hitter priva tions to the working classes, has searchingly tried the endurance of all.

To account for this cheerful view of the case, Mr. Muller presents the following facts

The chief demand in the United States has been for railroads, and the bulk of our exports con-sisted of steel and iron rails, steel blocks, old iron rails, Bessemer pig iron, Cleveland forge pig iron, spiegel iron and hematite ore. This demand will continue until the more pressing orders have been executed and a number of idle works in the States have been got to full work again. We therefore must not rely on this large outlet of our iron and steel for a great length of time, unless the tariff steel for a great length of time, unless the tariff be lowered. We have, however, got rid of some heavy and inconvenient stocks, and entered on a course of remunerative trading. A repetition of the inflated trade and high prices of 1871-73 is neither probable nor desirable; the situation not analogous. America was then, as it is at this not analogous. America was then, as it is at this moment, a large buyer; but, on the other hand, the purchasing power of the United Kingdom is much less at the present time. Germany has no milliards to spend. Russia is unsettled and exhausted through an expensive and fruitless war. hausted through an expensive and fruitless war. France has had a deficient wheat harvest, a complete failure of the beetroot (sugar) crop and a bad vintage. Europe is poor at present. The brisk demand and rapid rise of prices has the effect of bringing into play the large reserve power of production, and it is interesting to note to what extent this has already taken place. The increase in the number of working blast furnaces since the 1st July amounts to twelve in Scotland, twelve in Clevelland, nineteen in Cumberland, five in Lincolnshire and, nineteen in Cumberland, five in Lin four in Northamptonshire, seven in Derbyshire, sixteen in South Staffordshire, seventeen in South Wales and Monmouthshire and seven in South Langashire. The number of additional furnace preparing to blown in this spring amounts to about fifty-three in the above-named districts. This would still leave a large reserve of furnaces which could be prepared for work in the course of the year. In Luxembourg, and in German and French Lorraine, the increase has been four fur-naces; in Westphalia and the lower Rhineland the addition will shortly amount to twenty-four furnaces. A great dearth of coke exists at present in Westphalia, and a great number of coke ovens are being built. Coals are plentiful. No statistics for the year are to hand as yet from the United States. At the end of November one-third more furnaces were at work than at the beginning of the year, increasing the yearly output to 3,300,000 tons, and if sufficient material can be got the make, it is estimated, will be increased to 4,000,000 tons by next sammer. The chief stocks of pig iron are held in Scotland and Cleveland; the former with 745,000 tons shows an increase of 66,000 tons, the 745, to the same at the case of 54,451 tons at the end of the year. As compared with 1878 Sootland has made 30,000 tons more than in 1879, and Cleveland 241,724 tons less.

in favor of foreign irons. But suppose the there would seem to be occasion for alarm Suppose it shall be found that it is only a crease of production for which preparations

In an address before the Leeds Chamber of Commerce, of which he is president, Mr. based on the expectation of a large and in- James Kitson, Jr., of the Monkbridge Iron Works, is reported to have said concerning

It was natural that, as cautious business men, they should now again ask themselves "Will this last ?" and in this connection they were naturally led to inquire whence the great improvements had come. As they all knew, the stimulus in the we had something over 1,000,000 tons to meet the eatly increased American demand, and the Germany, which had ceased taking pig iron mand all over the world. Germany, which had for some time pretty nearly ceased taking pig iron from England, began again just before the commencement of the year, when she took large uantities to anticipate the duty. bether the German demand would ex the duty was levied; b sed demand, in conseq Pennsylvania, that in years gone by have out, published on another page of this issue. prices as would tend to check the foreign der

nege was 2,629,549, at a total of £17,630,300—whereas no less than £31,190,000 was obtained for 2,437,000 tons in 1874, and £37,731,000 for 2,957,000 tons in 1873. There was thus a considerable margin still left h prices. In addition to the American demand, we had also now to take into account the demand from the East. The harvests in the East had been much better last season than for a long time; and the consequence was that, from India and from our own colonies, we had an immense increase of demand for iron railway purposes, and for all the materials necessary for the stocking of railways. One matter that struck him as requiring great caution was, that he heard of a great many outside people, who did not know anything about the matter, speculating and dabbling in iron. A word of caution to these people was certainly desirable, for any one who so touched iron was sure to burn his fingers, unless he only bought what he could pay for, and did not bind himself to time bargains. He mentioned this subject because he heard of extensive eculation in Glasgow pig iron warrants, which ight result in trouble if that course were perse-We should also take care, although the times were more prosperous, not to increase our working plant unduly, so as to make the producion again overtop the demand and damage the hance of getting fair prices.

W. Fallows & Co., Liverpool, in their annual circular, issued about the first of the

pects as respects our foreign trade, for not only has America given evidence of a renewed demand for iron of all kinds, but our Eastern markets are full of greater promise than for many years past, while other countries are all bare of stocks, and are not likely to delay ordering in face of advancare not neety to delay ordering in face of advanc-ing prices. The only drawback is in the home trade, which is affected by the depressed state of agriculture, but we think too much has been made of this, at least so far as the iron trade is con-cerned. The home consumption of iron in connection with agriculture is small in comparison with the demand from shipbuilders, engineers, machinists, and ether departments which are more dependent on the condition of our export trade. It must also be borne in mind that what has been our loss has been America's gain, and the iron trade is receiving more than ample comnsation in the active trade which has thereby

In this, as in most other circulars which have come to our notice, we miss specific information as to the nature and extent of the probable demand from other countries. Messrs. W. Fallows & Co. devote a great deal of space to an analysis of the state of trade in this country, and the probable demand from here, but concerning the demand from other countries they give us the generalities quoted above. What is this demand from the "Eastern markets," and what does it amount to? Nobody seems ready or willing to give the figures for any other country except this, and one might infer, without doing violence to the probabilities of the case, that the demand from the United States is about all that can be counted on with any certainty. In England, as here, the expression of doubts seems to be unpopular, and those who question the permanence of the improvement are, as our English correspondent says, mostly giving their views identity. One of these "conservatives," in a letter to the London Times, over the signature of "Iron," says:

blown in shortly, we get the following figures, as the increased supply in sight for 1280 over 1879: Cleveland and North of England, 500,000 tons; Cumberland, 400,000 tons; Staffordshire, Wales, Lincolnshire, Derbyshire, Lancashire and Northamptonshire, 350,000 tons, and Scotland, 200,000 tons, showing a total increase of 1,450,000 tons. In addition to this, preparations are being made to start additional furnaces to the number of 37—there will likely be more—and these may be expected to be put in blast in the course of the next three months, and will yield a further 250,000 tons, making an increase of production over 1879 of making an increase of production over 1879 of

As regards the probability of such an increased supply being taken off, it is, of course, impossible to speak with certainty. A further considerable increase of consumption in America may unquesiron in 1880 at 4,000,000 tons, as against 3,200, for her own wants.

From other parts of the world indications are not favorable. October, November and December show each a decrease in exports to all parts exared with 1878

ist not, either, be forgotten that much of the iron bought lately by America has been, to a large extent, bought speculatively, and put into store on its arrival. A repetition of this process has now begun, owing to a great rise in the price ember, for instance.

gild confidence and excitement of to-day is a con

plies as follows :

mere result of speculative transactions in the producer.

Upon this point it might be mentioned that our United States and at home, but his second letter total exports of iron and steel in 1893 amounted to bears evidence that the continued advance in price is evidently modifying his views. We know how between January and November, when the tonto warp the judgment, and what a depressing effect the being oversold at low prices may exer

The American demand is increasing, and not diminishing. Enormous orders have come over during the past week, and if we glance at a few broad facts, look beyond the figures of a few hun-dred thousand tons increased makes of pig iron, I think we can see ample justification for the long

expected expansion of trade.

As an illustration of the errors that limited views may produce, I will quote from the report of the British Iron Trade Association for 1879:

"It cannot, however, make much difference to the English iron and steel trade whether Ameri oan railways are largely extended or not. Practically, we have ceased to supply the United States with railway material."

The heavy shipments going on, the enormous

orders that are now being given out, are the re futing answer.

futing answer.

Let us, rather, take a few broad facts. The wide world is the market; the length of railways now existing exceeds 250,000 miles of single line, and the iron and steel of their construction amount, in round figures, to 40,000,000 tons is constantly wearing out and has to be

Of this length of railway the United States possess about 90,000 miles; they had but 50,000 in 1870, and 35,000 in 1865. These figures show the rate of their expansion alone; and I have it on the authority of a leading New York firm that miles of new line are already contracted for and in active construction. France, we know, is commencing a vast system of extensions. Other foreign countries and our own colonies are follow

I will not attempt in the course of this letter an investigation into the figures of probable consumption and present production, but the existing producing power of the world is inadequate to supply these demands for new works, let alone the heavy and annually increasing requirements for wear and annually increasing requirements for wear and annually increasing requirements for wear and tear of existing lines. Renewals, we know, have been stinted to the utmost during the past year of depression, but cannot be indefinitely deforred.

This depletion of stocks is not confined to rail-ways alone; those of every country blacksmith, of every village shopkeeper, are at the lowest ebb. Once let it be apparent that prices are advancing and the tide has turned—all rush in to buy. In-creased facilities of transport and rapidity of com-munication reduce the amount of stocks that need be held and tend but to appears the interior. be held, and tend but to augment the intensity of the reaction when once commenced. That the tide has turned no one, on dispassionate considera-

The pendulum of commerce swings as surely as that of mechanics. In no former period of depres-sion did prices reach so low an ebb as in that from which we are just emerging, and the probable in-ference is that they will touch a higher point in the oming period of inflation than any we have yet een. Another noteworthy fact is that the time of the pendulum's swing is pretty regular, and a time of the pendulum's swing is pretty regular, and a time of reaction is due. Wars and political convulsions even do not affect it; the Crimean war of 1854-6, the American war of 1854-5, the Franco-German war of 1870-71 were simultaneous with periods of great prosperity. The wave of commercial depression swept round the world from west to east, and it is but a reasonable inference that the tide of prosperity should follow the same course.

In view of the generally unsatisfactory,

and in some respects conflicting statements

above presented, it would be unwise to assume that, in estimating the probable over signatures calculated to conceal their course of prices for iron in this market, the competition of foreign pig can be disregarded as of no consequence. Thus far it has operated only as a steadying influence, The most marked result of the advance in prices, so far, is not increase of consumption, but of production: there has, indeed, been large buying by merchants as well as by speculators, but the increased consumption has been confined chiefly to America. From the increase of furnaces actually in operation and certain to be blown in shortly, we get the following figures, as the increased supply in sight for 180 over 180; when American brands, with which foundry when American brands, with which foundry and mill managers are entirely familiar, can be had at or about the same prices. But the difference in favor of Scotch and English irons, as compared with corresponding grades of native pig, is so great in some instances as to attract the attention of consumers, and we learn that it is being experimented with on a large scale. When these experiments are intelligently conducted there is every reason to believe that the results will be satisfactory enough to satisfy all reasonable expectations; and that such is the fact is shown by the inat a point which will cause no interference with the more desirable domestic irons, which are preferred for most uses, even when the difference in price is considerably the condition of Europe is as he describes it, increase of considerably the looked for; but there too, the increase of consumption of these irons. Present the shown by the first such as the fact is shown by ton cheaper than the nominal quotations for tons in 1870; so that, even if the expected increase of soon miles of railway construction be realized, taking soon to firon and steel, it would seem that America is making a pretty good provision hand. Should the revival on the other side disappoint expectations, and the fact appear that prices were being advanced salely on the strength of the American de cept America aggregating 60,000 tons, as com- mand, we may confidently expect that a larger proportion of the million tons of British stock will be sent here than this market could take without a break. In view of this contingency, we think it our duty to advise a cautious policy on the part of American pig fron, and, no doubt, occasional bursts of such buying may be looked for in a time of great activity and wealth in America; but in this state of matters periods of cessation of such purchases must intervene, as was the case in No-courage shipments to this country in such courage shipments to this country in such On the whole, there is great reason to fear that amounts as will necessitate forced sales at on the whole, there is great reason to lear that production is being overdone considerably every where, and with a stock of over 1,00,000 tons of pig from in Scotland and Cleveland, it would be well that the present increase of manufacture shall be proved to be required before further furnaces are blown in. The best commentary on the possible to make large shipments at short notice. It is not supposable that, if there dideration of the gloom and depression of scarcely our months ago. A comparison of both periods a besolutely ludicrous. We only want the appearance on the scene of the "promoter" of will continue to hold iron when it can be will continue to hold iron when it can be on companies to complete the picture. He will sold in this country at a profit, even though To this Mr. John Dixon, of London, re- the price realized was considerably under the present average of the market here. plies as follows:

Is the great "spurt" that has been made in the iron trade substantial and permanent, or is it speculative and evanescent? This is a question of great public interest, which "Iron" and others have been discussing in your columns. In his first letter "Iron" characterized the advance in price as the mere result of speculative transactions in the present average of the market here. There seems to be no ground for anxiety respecting. American consumption; but if it devolves upon us to consume all the surplus stock in Great Britain, the immediate outlook is better for the consumer than for the producen.

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Hoop Iron.

attention to the ruling. In other words, tection that Congress intended it should sible to foreign nations. have. That a mere technicality should be There are a good nations. allowed to stand in the way of justice being done now, is not right, and we do not believe that it will be allowed. The Secretary of the Treasury is preparing a case to lay before the Attorney-General, and the prospect is sacrifice the country's best interests under that the matter will be reopened. That the the specious plea of principle. They know methods of the importers regarding hoop perfectly well that the true destiny of this iron are in violation of the revenue laws, scarcely admits of a doubt, in view of the letters presented to the Secretary of the and the sacrifice of its manufactures in the Treasury by the manufacturers. It remains to be seen whether the 35,000 tons which that, notwithstanding the large foreign dethe Standard Oil Company are said to have purchased will be permitted to come in at 35 per cent., or whether they will have to pay the proper 1 1/2 cent duty.

The Animus of "Revenue Reform."

The advocates of so-called free trade have given it out with as much publicity as possible that, having from necessity abandoned for the time all expectation of securing a favorable consideration for any scheme of general tariff revision they might propose, they intend to concentrate their forces for attacks upon one item after another of the tariff, selecting those which are deemed most vulnerable. Their success with the free quinine bill last year has given them great confidence, notwithstanding the fact that the consumer has profited nothing by this little piece of cheap demagogy, and now, as is generally known, they are making an effort to win in the matter of steel rails the same kind of a barren victory.

Now, there are two things about this socalled free trade movement which should condemn it in the judgment of all thinking men-it is wholly impracticable and utterly dishonest. Our warrant for these statements can be given in few words.

1. It is impracticable, because such a thing as free trade is impossible without reciprocity on the same basis. The only important nation which now makes even a pretense of free trade is Great Britain. The tendency of all Europe, and of nearly every non-European country of any commercial and industrial prominence, is steadily the other way. They are seeking to build up and diversify their productive industries by the means we have found so efficaciousnamely, by protective duties. By throwing off our duties we are not getting free trade even in the articles placed on the free list, nor are we to have any advantage to compensate the nation for the double loss of protection and revenue. We are merely opening our markets to nations which are wisely closing theirs against us. In other words, we are giving something for nothing, and are as far from free trade, practically, as we were before.

thing and means another. It proposes to seek cheapness—it means the breaking down as ourselves. of the competition of American products with foreign products. The only duties which have been or will be attacked are those which are especially useful for purposes of protection. It is part of the freetrade theory that, on anything not made at home, a light duty may properly be charged for purposes of revenue, but that wherever the influence of a duty is felt in the encouragement of a domestic industry it becomes baleful; it it said to be a violation of natural law, and its repeal is sought more or less eagerly, according to its importance. Why a tariff which is merely a tax, increasing by so much the cost of the taxed article to the consumer, should be considered proper and in accordance with natural law, while one which protects, and by encouraging domestic production cheapens the cost of the protected article to the consumer, is all wrong in theory and pernicious in its in- under obligation to pay for it. If he refuses expressed concerning the probable course of fluence, has never been clearly explained. But to receive it the postmaster commonly notihowever this may be, the most unconditional fies the publisher of the fact, although we free trader neither expects nor desires free believe he is under no legal obligation to do those who had little or none failed to see in trade. All he wants is that the tariff shall so. be so remodeled that the whole revenue needed by the government from customs shall be collected in the shape of duties on articles not produced at home, and that who receive papers, or to whom they are speculation, and that he had none to sell unruinous competition with American manu- fying the publishers, which we believe to be hold than sell the goods he has on hand and

the so-called revenue reform movement in should advise our correspondent to notify policy; those who were short no doubt con-calling them bottoms for kettles. This For the condition in which the hoop iron this country is shown by the fact that, while the repeal of certain duties upon admanufacturers find themselves at the pres- vanced products of manufacturing processes ent time, by reason of the decision of the is sought, no one has proposed to expend Treasury Department admitting hoops cut any effort to secure such modifications in to length at 35 per cent. ad valorum, they the duties on raw materials as would be in for his own profit and benefits. In that case the should be willing to secure such modifications in the duties on raw materials as would be in for his own profit and benefits. In that case the should be willing to see the should be willing to see the should be will be will be should be will be should be will be will be should be will be are not themselves wholly blameless. At the interest of the industries thus exposed to the time this decision was made hoop iron the interest of the industries thus exposed to had and used.

The did not know what to expect for the future. But allowing for all reasonable differs the opposite side must show that hoops are had and used. was so low, and the prices in this country so willing, and even desirous, that our manu near those of England, that it was not facturing industries should be handicapped thought of enough importance to pay much by the withdrawal of the protection hitherto extended to their products, but not at all sothough they were warned of their danger, licitous that they shall have cheaper materithe warning passed unheeded and a decision als. They would rather see the duty rewas entered against them by default. We moved from steel rails than from Bessemen can hardly tell the number of times in the pig iron, or from Bessemer pig than from past five years that The Iron Age has the ores from which that grade of metal warned manufacturers of what might be could be made. They would rally to attack termed the higher grades of iron, such as the duty on woolen goods, but would be apt hoops, sheets, &c., that the future had to think the wool-growing interest too small trouble in store for them; but they were to make it worth while to withdraw the seemingly indifferent and adverse action was protection now given to domestic wool. allowed to be taken. However true this They would lend every energy to break may be, and however blameworthy the down the duty on steel, but would conhoop iron manufacturers are for their action, it should not be allowed to interfere with In a word, they do not want free trade, carrying out the plain meaning and intent but they do want to break down protection of the law, and giving to hoop iron the pro- and leave our markets as open as pos-

There are a good many thousands of sensible and honest Americans who look upon this kind of "tariff reform" as species of treason-and the meanest kind of republic will not be realized in a forced development of its agricultural resources interest of foreign nations. They know mand of the past three years for our surplus food products, a season of abundant harvests in Europe would see us with an enormous surplus, which could not be profitably marketed at home or abroad. They know that the most profitable kind of business does not consist in sending abroad vast quantities of cheap raw materials and food products, and supplying our wants with manufactures and the higher products of skilled labor from abroad. These practical Americans know that the demands of the revenue reformers are dishonest, and that if acceded to by Congress they would involve sacrifices for which no compensation is offered or could be expected. It is not to be wondered at, therefore, that a scheme of revenue reform so wholly inconsistent with itself, with common sense and with the best interests of the republic, should not be popular; but it is to be wondered at that any Representative in Congress, unless from the cotton fields of the South or the Granger districts of the West, should be allowed to give ear to these foolish and dangerous scheme without receiving notice that his constituents will hold him to strict account for be traying the best interests of the people. Two-thirds-yes, nine-tenths-of the mischief which, during the past five years, has resulted from profitless tariff tinkering, is attributable to the apathy of those who are favorable to protection. If half of those who want the tariff let alone would say so to their Representatives in Congress, there would be a good deal less disposition than is now manifested to manipulate duties in the interest of foreign manufacturers.

Sample Copies and Gratuitous Service of Newspapers.

A correspondent sends us the following etter of inquiry:

In common, no doubt, with a multitude of other ensate the nation for the double loss of proection and revenue. We are merely openag our markets to nations which are wisely
losing theirs against us. In other words,
we are giving something for nothing, and
re as far from free trade, practically, as
we were before.

2. It is dishonest, because it professes one
hing and means another. It proposes to
hing and means another. It proposes to

Age, no doubt, with a multitude of other
manufacturers we receive, regularly and irregularly, agreat many papers for which we would not care to
subscribe. Will you please inform us whether the
laws about papers are now such that if we take
such papers from the post office we can be compelled to pay for them. We cannot tell what they
are until we tear the wrappers off, frequently. If
you can answer through the columns of The Iron
days, no doubt it will be agreeable to many as well
as yourselves.

Age, no doubt it will be agreeable to many as well
as yourselves.

The points involved in this question of the liability of the public to the publishers of newspapers, are simply those of common law. We know of no statutes relating to the subject.

At common law, if a man takes and uses a thing which is offered him, he is supposed value to the person who supplies it. If he should receive from a butcher or a grocer something he had not ordered, but should retain and consume the articles thus sent him, he would have no defense if called upon to pay for them.

The receipt through the mails, or in any upon the recipient. If, however, he allows

whatever comes into direct and, if possible, sent after they have removed without notiruinous competition with American manufactures, shall be admitted free, or at a rate of duty so low that it will yield a large revenue without placing any restrictions upon the volume of imports. The real animus of

the West.

highest point for which any provision is boiling. This has led to considerable speculation as to the action of the boilers should the card on iron go above four cents before boilers agreed that when iron went below the 21/2-cent card, the lowest point for which provision was made in the scale, the 21/2cent price or \$5 must still be paid-at least argument will be equally good when the officers of the association say regarding this question: "The association has faithfully labored for the adoption of the respective scales now in operation, and has fearlessly maintained and honesely stood by them under all circumstances, and any agitation on that point is not only premature, but highly out of place, uncalled for, and will tend to work detrimental to the general good. Let us cultivate the faculty of keeping our business to ourselves, and thereby carrying out that good old maxim of 'a still tongue,' &c. No fears need be entertained as to the association acting otherwise than honorably should the card advance above four cents."

It is a fact, and one for which it deserves redit, that the union has faithfully carried out its written engagements to the letter. The scales that have been signed have not been satisfactory to the manufacturers, but they have so far been lived up to. It is true that but little, if anything, could have been gained by breaking them. Now something can be gained. Will the scales stand the test?

The National Association of Stove Manufacturers.

Elsewhere in this issue we publish a conlensed report of the first day's session of the National Association of Stove Manufacturers, at the Fifth Avenue Hotel in this city.

With the exception of Gen. Rathbone address, and Mr. Perry's paper and the discussion which followed it with regard iron, the business of Wednesday was without specific trade interest. That of Thursday, however, was important to all classes of our readers. On recommendation of the ommittee appointed to prepare an order of usiness, it was resolved to adopt 61/2 cents er pound of castings as the minimum price of the commonest grade of cook stoves and east-iron heating stoves, to which shall be added the cost of mounting and trimming, including rods, bolts, nuts, grinding and polishing, brick, reservoirs, tin, nickel ornaments and all other materials, plus a reasonable profit thereon. In other words, the basis price for the next six months is 6 1/2 cents per pound of iron castings, and the cost of the other materials used in mounting and trimming are to be added to the selling price. From this basis the figures rise by a sliding scale to 9 cents for the finer classes of goods, with a uniform charge of 8 cents for repairs, and hollow-ware at discount profitably on this basis when made from iron at or below \$35. Founders who buy iron at present figures cannot make a reasonable margin on stoves sold at the basis price, unless the extras are charged out of proportion to their cost. Should iron be maintained at its present level, or experience a further advance, the prices of stoves will doubtless to assume the obligation to pay its market be advanced in proportion; should it decline below \$35, the conditions of competition render it quite certain that the dealers will

get the benefit of it. The tone of the discussion on Wednesday and Thursday shows how difficult it is for one whose views are not influenced by his immediate pecuniary interests, to form opinother way, of occasional copies of newspapers ions in which he can feel confidence as to the sent him as samples, imposes no obligation future course of the iron market. One who listened to the debate could tell pretty accupaper to be sent him regularly and con- rately how much iron a manufacturer had tinues to receive it, he would probably be in yard or contracted for, by the views he prices during the next few months. Those

the postmaster that he refuses to receive sidered it midsummer madness, altogether them and leave the matter there. No re- unseasonable in February. Mr. Filley probpectable newspaper will ever trouble him ably expressed the average opinion in his with a bill for papers not subscribed for, plain, practical way, when he confessed that ences of intelligent opinion on this subject, The Card and the Boilers' Scale in the fact remains that pig iron is now crowding \$45, that it is strong for the moment, and that the manufacturer who expects to The advance in the card rates of iron at buy iron very soon at a much lower figure Pittsburgh to four cents, brings it to the than it now commands, and shapes his business policy on this expectation, takes a risk made in the agreement between the boilers not warranted by a due regard for prudence. and manufacturers regarding the price of The immediate future is, to say the least, very uncertain, and the only wise policy for manufacturers to adopt at the moment is to act on the assumption that they will have the 1st of June, as it bids fair to do. The to replace the iron they are now melting at the price it now commands in the market.

A rather severe burlesque appeared in the Pittsburgh Chronicle of last week. The until the expiration of the contract. It will be somewhat interesting to see whether this diggers that the price for digging coal shall be based on the price of bar iron in Pittslimit is exceeded in the other direction. The burgh. The Hired Girls' Association-or, as they term themselves, the Housekeepers' Assistants' Labor Improvement Assosiashun -are represented as holding a convention and demanding a scale of wages, as follows

When the Western Iron Association card for Bar iron is 2½%, no girl shall work for less than \$2.50
Bar iron is 2½%, no girl shall work for less than \$2.75
Bar iron is 3%, no girl shall work for less than \$3.00 This is not a bit more absurd than the demand of the miners, and the chief argument used for basing the price of digging coal on the price of bar iron, can be as properly advanced for the above scale.

A cable dispatch from St. Petersburg, Russia, under date of February 8, states that the commission on the revision of the metal tariff have reported to the Council of State recommending the importation of pig ron free of duty, and the imposition of a duty of 75 cents per 100 lbs. (35 copecks per pood) on assorted iron; \$1.04 per 100 lbs. 50 copecks per pood) on sheet iron; \$2.08 rouble) on machines, and 63 cents per 100 lbs. (30 copecks per pood) on agricultural implements.

Tariff Matters at Washington.

(From our Special Correspondent.)

Washington, D. C., Feb. 10, 1880. Mr. Scudder, of New York, attorney for the importers in the pending controversy on the classification of hoop iron as between of the classification of noop from as between a 35 per cent. ad valorem and a specific duty of from 1¼, 1¼ and 1½ cents per pound, delivered an argument, on the 4th inst., be fore Judge French, Second Assistant Secretary of the Treasury, taking the ground that the department should not attempt to defy the adjudication of the courts. That the whole question was considered with the greatest care before Judge Woodruff and subsequently before Judge Blatchford, and while the weight of the court was in favor of the government, yet the verdict was against it. Mr. Scudder then went on to show that in compares out hoors. against it. Mr. Scudder then went on to show that in commerce cut hoops was an accepted designation, and being unmen-tioned in the statutes came under the class of "manufactures of iron not otherwise provided for." That, he claimed was the opinion of the Appellate Court to-day. He argued that if the department fancied that the Federal courts are variable tribunals, then it would be well to go on with a new case, but otherwise it would be necessary to undertake a reopening of the case under new circumstances. He alluded to the large contracts now entered into by American importers and the effect which a change of the decision of 1878 would have upon them. The department, in view of the judicial decisions that issued its own construction and isions, had issued its own construction, and it was the question whether it was now the purpose of the department to undo what had been done.

Judge French here interposed that the department had no power to overrule a court on a question of law, but it might place its own construction on a question of fact, that in the cases cited there might not have been evidence enough to support the verdict. If the department should prove a different state of facts it might have another case on facts. He added that the only way of bringing up a new case would be to clas-sify the article differently and then let those who object to it bring the matter before the

Scudder then submitted affidavits of Mr. Albert Whitney, builder of the elevated arr. Aftert with the systemetric trailroads of New York, John A. Kernochan and others, to show that cut hoops was a commercial term, and that an order for hoops cut to length would not be filled by a shipment of hoop iron.

Mr. Shellaberger in reply, representing the hoop iron interests of the United States, said that his opponent having argued from one finding of one verdict of one jury in the United States, he did not agree that it was

claim brought them out of the general class of plate copper. Chief Justice Marshall said that the question was whether this cutting took them out of the class, and decided not, the article clearly belonged under the head of hoop iron. He then read a decision by Judge Hopkinson which applied to the case. Judge Nilson followed, enaborating the same line of argument.

The Second Assistant Secretary of the Treasury, Mr. French, had a lengthy interview with Secretary Sherman on the 9th inst., in which he carefully reviewed the arguments on both sides. Judge French indicated the pretrace of the instance of the carefully reviewed the arguments on both sides. dicated the vastness of the interests involved, and intimated that he had some hesitation in taking up the question, on the demand of the American manufacturers, for a revers-ing of the decision of the department. He showed that the old ruling had been in force for ten years and the present but two, but that there were large contracts unfilled for iron hoops or hoop iron cut to lengths which should, in justice to the importers, not be ignored. The Secretary, in view of all the facts, suggested that the subject was a proper one to refer to the Attorney-General, with a statement of the points at issue. The subject was formally referred to him, as indicated, and upon him depends the reversal of the decision of the department in favor of an ad valorem duty, the continu-ance of which is desired by the importers, or the return to the specific duty, claimed by the manufacturers. The Attorney-General stated to the correspondent of The Iron Age to day that the papers had not yet reached him, but that he would not delay his decision unless gentlemen on either side should request a hearing. He would then determine whether to grant this privi-lege or decide upon the abstract question, supported by the information in possession of the Treasury Department. This reference will consume at least several weeks should hearings be grarted, and if not, it is believed that the Attorney-General could give the subject his attention within ten

The Committee of Ways and Means bave had several informal conferences since the close of the hearing of the parties for and against the steel bar and rail interests, upon the several propositions before them looking to a reduction of duties. There are now three different bills before the committee—that introduced by Representative Buckner, of Missouri, to reduce the duties on railway bars made in whole of steel to one-half cent per pound, and on bars in part of steel to one-third cent per pound; that of Representative Fort, of Illinois, establishing the duty on steel railway bars at \$12.50 per ton, and that of Mr. Covert, of New York, and upon which the most discussion has been had, reducing the duty on steel rails to \$10 per ton. The conferences have very conclusively demonstrated that the majority of the committee are favorable to a reduction of some kind, and it is only a question of how much. When the bill was first in-troduced, providing for a reduction from \$28 to \$10 per ton, the free traders on the committee were unwilling to fix a rate more than \$10, but since the information has been submitted to the committee, these gentle-men have very much changed, and those who then favored \$10 are now willing to concede \$14. The revenue tariff men on the committee, who are opposed alike to free trade and excessive protection, are desirous of fixing a rate of duty which would answer the necessities of the government, and at the same time afford ample protection to the American manufacturers. The Republicans on the committee, including Garfield, who has hitherto inclined to the revreduction whatever. They do not expect, however, to be able to prevent the reporting of a bill fixing the duty at about \$14 per ton, yet they are confident that when the measure comes before the House, where full discussion will be had, they will be able to demonstrate that a reduction at this time will not only be fatal to this great question, but that it will result in a loss of several millions of dollars in revenue in the next two years. The orders that have already been given for steel rails of foreign manufacture, it is claimed, would realize not less than £2,000,000 of revenue at present duties, but which under a reduction would put directly into the pockets of foreign manufacturers upward of \$1.000,-000. The friends of the manufacturers on the committee are not disposed to make any compromise. On the floor of the House, however, there are many Republicans who admit that, under the circumstances, it is the part of wisdom to effect a compromise, fixing the rate at about \$18 per ton. They say, however, that they will first favor the present duty, and, find finding it impossible to maintain that, will exert themselves to secure \$18 as a minimum. A canvass of the committee shows that 7 cut of 13 are for reduction, namely: Wood of New York, chairman; Morrison of Illinois, Cariisle of Kentucky, Gibson of Louisiana, Mills of Texas, Phelps of Connecticut, and Donnelly of Minnesota; and the rest of the commit-tee, Tucker of Virginia, Felton of Georgia, Garfield of Ohio, Kelley of Pennsylvania, Conger of Michigan, and Frye of Maine, are divided between the present rate and a com-

promise for revenue.

Mr. Wood having failed in his sweeping measure of last session, has evidently deter-mined to make such inroads upon the present system of protection of American fies the publisher of the fact, although we had most iron were most confident; believe he is under no legal obligation to do so.

A great deal has been printed in newspapers of a certain class with regard to the obligations and liabilities incurred by those who had been printed in the present range of values and liabilities incurred by those who had been printed in newspapers of a certain class with regard to the obligations and liabilities incurred by those who need to be maintained. One manufacturer obligations and liabilities incurred by those who had little or none failed to see in the condition of business any warrant for supposing that the present range of values could be maintained. One manufacturer obligations and liabilities incurred by those who had little or none failed to see in the condition of business any warrant for supposing that the present range of values could be maintained. One manufacturer obligations and liabilities incurred by those who had little or none failed to see in the condition of business any warrant for supposing that the present range of values against the spirit of the statutes that the department or one question of classification. He said that the case was of classification of the supposing that the present system of protection of American conclusive that cut hoops were a distinct those who had little or none failed to see in the condition of business any warrant for supposing that the present range of values against the spirit of the statutes that the department or one question of fact, without a decision of the Suppreme Court or the Atthe condition of business any warrant for supposing that the present range of values against the spirit of the statutes that the department or one question of each that it was conclusive that the those who had little or none failed to reach then by system of present system of protection of the statute that i obligations and liabilities incurred by those who receive papers, or to whom they are sant after they have removed without notification, which we believe to be stated that he had bought iron up to \$38 on of classification. He said that the case was wood and Morrison have thus far been a speculation, and that he had none to sell unstantiated torney-deners, that the case was wood and Morrison have thus far been a speculation, and that he had none to sell unstantiated torney-deners, that the case was wood and Morrison have thus far been a speculation, and that he had none to sell unstantiated torney-deners, that the case was wood and Morrison have thus far been a speculation, and that he had none to sell unstantiated torney-deners and that the case was wood and Morrison have thus far been a speculation, and that he had none to sell unstantiated that the case was wood and Morrison received at the hands of the publishers, which we believe to be had only in the publishers. Which we believe to be had only in the publishers and the publishers are the publishers and the publishers are the publishers. The treatment which we believe to be had only in the publishers are the publishers. The treatment which we believe to be had that the case was wood and Morrison have thus far been a speculation, and that he had none to sell unsuch that the case was wood and Morrison have thus far been a speculation, and that he had none to sell unsuch that the case was wood and Morrison have thus far been a speculation, and that he had none to sell unsuch that the case was wood and Morrison have thus far been a speculation, and that he had none to sell unsuch that the case was wood and Morrison have thus far been a speculation, and that the case was wood and Morrison have thus far been a wood of the publishers.

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An Interesting Suit.

The Missouri Furnace Company, of St. Louis, have brought suit, in the United States District Court at Pittsburgh, against Messrs. Boyle & Hazlett, coke manufactur-ers, for damages through a failure to supply coke as agreed upon. This brings up an important question, and one in whose result a number of blast furnaces are inter-ested. It is asserted that Messrs. Boyle & Hazlett entered into an agreement with the Missouri Furnace Company to furnish them Missouri Furnace Company to turnish them with 11 cars of coke per day, making 330 cars per month, from the first day of October, 1870, until the first day of October, 1880. By the terms of the centract the plaintiffs were to pay \$1.16²/₂ per ton for the coke, based upon the price of mining at 25 cents a wagon and 60 cents per oven for drawing the coke. In case any strike of cents a wagon and so cents per oven for drawing the coke. In case any strike of miners or other operatives at the coke works should occur, then Boyle & Hazlett were not to be liable for damages for not furnishing the coke regularly, nor were they afterward to make up for time and cole lack by any such strike. coke lost by any such strike.

It is claimed that default has been made

of 1000 cars for October up to time of bringing suit, and that by this default six furnaces have been kept out of blast. The damage by reason of this is estimated up to this time at \$220,000, and total damages of \$600,000 are asked for, or some \$20 a ton on 30,000 tons of iron which these furnaces would have made. Messrs. Boyle & Hazlett say that the amount involved is not more than \$30,000. They further say that the claim of the furnace company, that six of their furnaces were closed by a failure to receive II cars of coke a day, is ridiculous, as II cars will not begin to run six furnaces. The reason for their failure to comply with the contract was a difference of opinion be-tween them and the furnace company as to what the terms of the contract implied. Messrs. Boyle & Hazlett furnished all the coke they could, but were unable to obtain from the railroad company 11 cars per day. They insisted that the furnace company should furnish the transportation, while the latter insisted that the coke firm should furnish it. Upon that point they split, and further attempt to fill the contract ceased.

In harbor transportation in New York there is a change impending, the New Jersey Central Railroad Company having it in contemplation to carry their own freight across the North River, instead of getting this business done by contract, as heretofore. The rate under the contract about to expire is 62 cents per ton, and the belief is that this expense can be further reduced. A number of large car-floats are building for the company in Eastern yards. The New Jersey Central Railroad Company has also purchased a large ship, which they will convert into a steam propeller and run between the great coal depot at Elizabethport and points of consumption eastward, like Providence. They will thus escape demurrage in case of detention, and the plan will conform to that of the Reading Com-pany, which is so successful on a larger scale.

Special Notices.

FOR SALE.

The large and extensive Iron Works situate on Center Island, in the Hudson River and opposite the city of Troy, comprising a Foundry, Machine Shop, Boiler Shop, Blacksmith Shop, Plow Shop, Docks, Cranes, &c., &c. The works are fully supplied with Engines, Lathes, Planers, Forges, Bolt Cutters, Riveting Machines, &c., &c., and a large amount of other valuable machinery necessary for carrying on the business of the various departments.

These works are admirably located for all lainds of manufacturing purposes, and for transportation of materials and products by land and water, and have been in operation for over thirty years, un-der the management of Messrs. Starbuck Brothers, der the management of messers. Starbuck Droubers, and are well and favorably known throughout the country. In consequence of the death of several of the parties interested in said property and busi-ness, the works are now offered for sale, including several acres of land, at a low price and on the most advantageous terms for purchasers. For further particulars apply to

LEWIS E. GURLEY, Trustees, N. DAVENPORT,

17 First St., Troy, N. Y., Jan. 31, 1880. Protection in Canada.

The new tariff stops importation.

Branches of existing U. S. manufacturing coanies are accordingly being established

A Complete Manufactory,

with substantial buildings; water cower; in good center for labor and railway distribution; obtained by owners by foreclosure; offered for sale at a bargain; terms easy. Full information on application to

For Sale,

One New Fishkill Landing Engine, One Second-Hand,

one second-Hand,
in good order, 20-inch bore and 48-inch stroke
These engines are very heavily built, with large
fly wheels, and well adapted to rolling mill pur
poses. Apply te
No. 10 Bridge St., Brooklyn, N. Y.

DESIGNS

Superior Manufacturers' Tools

And Special Appliances.

ovements made, ideas worked out. Drawings, patterns and machines made to order in th

RICHARDS & DOLE, Springfield, Mass.

MECHANICAL ENGINEER -The sub Miscriber is open for an engagement as Super intendent or General Manager of Iron Foundry and Machine Works. Having had a long experi-ence in the construction of all kinds of Mining Machinery and also Blast Furnace and Rolling Mill Machinery, can furnish best of references et a shifty. See

MR. WILLIAM R. THOMAS is admitted a partner in our firm.
CROCKER BROTHERS, Special Notices.

A Woodruff & Beach MENGIS & Beam Engine,

Low pressure, 42-inch cylinder, 84-inch stroke, with fly-wheel pulley 20 feet diameter, 36-inch face, and

Four Tubular Boilers,

inches in diameter, 20 feet long, and all concitions practically as good as new. For sale by

The Geo. Place Machinery Agency, 121 Chambers and 103 Reade St., NEW YORK.

For Sale or Lease. FOUNDRY NEW YORK CITY.

The plot of ground (Excelsior Works) measures 275 ft. frontage by 100 feet deep. It has a splendid foundry, 65x165 feet, with cupolas, cranes, &c. If leased, additional buildings to any extent will be creeted to accommodate any kind of manufacturing business. Apply to WM. J. FRYER, Jr. Ætna Iron Works, 104 Goerck Street.

ELIZABETHPORT ROLLING MILL, Elizabethport, N. J.,

Common and Refined

BAR IRON,

Fish Plates, Spikes, &c.

DANIEL W. RICHARDS & CO.,

Importers of and Dealers in Scrap Iron and Metals,

88 to 96 Mangin St., New York.

FOR SALE..

THREE FIRST-CLASS CHARCOAL IRON FURNACES, with 9000 acres of IRON and TIMBER LAND to each furnace. Prices. \$60,000 for one, the other two for \$225,000

J. H. BRISTOW, Agent, Martinsburg, W. Va.

For Sale.

Christiana Rolling Mill Property, situated on the south side of Christiana Creek, Wilmington, Del. Main building, 90 x 190 feet, containing two trains of Rolls 30 x 96 inches, and so x 72 inches. Complete in all its appointments for a first-class Plate Mill. Or, will sell an interest to a person having capital, experience and capable of cruducting the business. Apply to person having capital, experience and capause conducting the business. Apply to LOBDELL CAR WHEEL CO., Wilmington, Del.

For Sale.

For Sale.

An interest in a well-established Machine Works and Hardware Manufactory, doing a large and increasing business, well situated within 80 miles of New York, with direct communication by water or rail. Capital required, from \$5000 to \$10,000. For further particulars address, with reference, S. M. C., Office of The Iron Age, 83 Reade 84. New York.

TO LEASE.

A desirable Magnetic Ore Mining Property, in Morris County, New Jersey, one-haif mile from railroad. Shafts Open, Engine, Machinery, &c., ready for immediate operation; quality of ore unequalled, suitable for making steel. An analysis by an eminent assayer gives over 65 per cent. metallic iron. The above property can be purchased at a very reasonable price. Address.

Office of The Iron Age, 83 Reade St., New York.

FOR SALE.

Water front property of 50 acres or more, with frontage of 1100 feet for docks, suitable for manufacturing purposes. The tract is crossed by the Lehigh Valley, Central of New Jersey and Pennsylvania Railroads, and fronts on deep water on the line of the Pelaware and Raritan Canal towing route at Perth Ambey, N. J. R is within a short distance of the terminus of the Lehigh Valley Railroad on the sound at Perth Ambey, Address WILLIAM T. MEREDITH.

37 William St., New York.

FOR SALE,—Valuable Charcoal Furnace Property, Hampshire county, West Virginia, near Baltimore and Ohio R. R.; about 8000 acres well wooded, with large deposits of superior quality ores for car wheels and Bessemer irons. Improvements, one furnace and buildings, engine, &c., complete. Ready for immediate operation. Five months' charcoal on hand.

Apply to TITUS S. EMERY, 328 Walnut St., Phils., Pa FOR SALE.

Valuable Mining property, 60,000 acres, covered with hard woods, suitable for charcoal. Gold, silver, copper, lead, manganese and iron on property. Deposit of Brown Hematite Iron Ore is immense. Cold biast car wheel iron from furnace on property brought highest price. Ore analysis, 57.6. Water power immense. Prefer to organize stock company and develop. Address. A. B. C., Office of The Iron Age, 220 South Fourth St., Phills., Pa.

W ANTED-By a young man, a situation in the Hardware or Iron business. Has had 14 fears' experience as clerk and practical workman. Salary moderate; references given. Address Office of The Iron Age, 83 Reade st., New York.

A Practical Furnace Manager and Superintend-naces. Best of references as to character and ability. Address M. C., P. O. Box 3612, New York City.

WANTED—By a young man, an engagement as general Salesman in a reliable Hardware house; eight years' experience with one firm. Would take an interest in a promising business. West preferred. Best of references. Address HARDWARE,
P. O. Box 280, Hartford, Conn.

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AND

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Dealers in all kinds of

Scrap, Wrought and Pig Iron, Foundry Crane, of Cheap. Address Old Rails and Car Wheels.

NEW STEEL AND IRON RAILS A SPECIALTY.

We have established the above house for the purpose of deing a general Railway Commission business. We negotiate the sale of Railroads (or the controlling inter ests), and effect consolidations and reorganizations.

We also import direct from different European ports all grades of Iron, Pig, Bessemer Steel, Old Rails, &c.

We sell Locomotives, Passenger, Flat and Box Cars at manufacturers' prices. Any business in our line we respectfully solicit a share of, always endeavoring to promote the interests of our customers. All orders, either by telegraph or mail, promptly attended to.

Mengis & Co.,

43 Pine St., NEW YORK

Post Office Box 154.

Cable address, "MENGIS, New York."

FOR SALE,

FIRST-CLASS RETAIL HARDWARE STORE On one of the principal streets. About \$2000. New stock. Address E. F., Office of The Iron Age, 220 S. 4th St., Phila., Pa

FOR SALE.

Stock of General Hardware, Store Building and good Dwelling connected. Situated in a small town, and one of the best grain markets in Ohio. Good opening for an energetic man. For particulars address "C,"

Lock Box 186, Canton, Ohio.

Wanted.

A second-hand Burdict Bolt Header, size A Parties having one for sale will please address the undersigned, stating condition and price of WM. H. HASKELL & CO. January, 1880. Pawtucket, R. I.

For Sale.

The Stock and Fixtures of the Hardware busi- The Sherman Process Co. oss located at 40 Water and Commerce Sts., No wich, Conn. Stock \$18,000 to \$20,000. FULLER & PARISH.

Norwich, Jan. 26, 1880.

ENGLAND.

Negotiator of contracts for Iron and Steel Rails Hematite and Cleveland Pig. Reference kindly permitted to John B. Anthony, Esq., President Providence Tool Co.. Providence, R. I. Corres pondence solicited by H. GIELGUD, 65 Gracechurch St., London.

Wanted.

& Superintendent for a Bolt and Nut Factors man thoroughly competent to handle a large institution, and practical in all the branches of the departments. Must be able to give unquestionable references. Address Office of The Iron Age, 77 4th ave., Pittsburgh, Pa.

WATER WORKS WANTED.

JOLIET, Ill., Feb. 4, 1880.

The City Council of this city are prepared to receive bids, through their committee, for the construction of Water Works. Any information can be obtained by addressing.

CHARLES PETTIGREW,
Chairman of Committee.

Sanderson Bros. Steel Co.

WANTED,—A situation as resident or traveling salesman or bookkeeper with a reliable house East or West, by a gentleman of ten years' experience in the Hardware and Stove business; understands bookkeeping by double entry. Good references. Address P.O. BOX 19.

Special Notices.

A. J. STEINMAN, Chairman. W. B. MIDDLETON, Supt W. G. MENDINHALL, Sec'y & Treas

PENN IRON COMPANY, Limited,

MANUFACTURERS OF

Merchant Bar Iron, Hammered and Rolled Axles, Car Forgings, Bridge Work, Fish Joints, Bolts, R. R. Spikes, Bolt Ends, &c., &c., LANCASTER, PA.

FOR SALE.

One large Planer, 25 ft. long, 5 ft. square, built very heavy, in first class condition. Also, Shafting and Pulleys, and one large Cupola and one large Foundry Crane, all in good condition and for sale

PENN IRON CO., LIMITED,

Full Leather, \$7,50. Half Leather, \$6
Pocket Edition, Full Leather, \$3,50.

DISCOUN'T Bolt List, \$1,50.
Screw List, 50 cents.
Leigh's Discount Book, 50 cents. Buell Lamberson, 97 Chambers st., N. Y. For sale at publisher's prices by Wm. Blair & Co. Chicago; A. F. Shapleigh & Co., St. Louis; C. B. James Detroit.

LEIGH'S

Discount Book.

Hardware Buyers will find this book par ticularly valuable. Shows at at a glance the net of any discount or combination. Also contains computing tables for quickly and accurately reckoning discounts. Indexed so any table can be referred to instantly without turning a leaf or wasting a moment Bound in Leather.

EDWARD B. LEIGH,

St. Louis Elevator, St. Louis, Mo. IVISON, BLAKEMAN, TAYLOR & CO., New York

FOR SALE.

A medium sized Alden Ore Crusher. Used only ahort time, and in good order. Address M. B. JOHNSON,

67 Fourth Ave., Pittsburgh.

FOR SALE. The entire Canadian right of Kenyon's Adjustable Chain Pump Bucket, a superior and substantial article. Can be accurately adjusted to fit the tube, and enlarged to take up the wear, so that the pumps can be kept in good working order. United States right for sale or lease on royalty. Address,

THOMAS KENYON, Patentee,

Box 103, Hamilton, Ohio, U. S. A.

FOUNDRY PROPERTY FOR SALE.

Buildings, Engine and other Machinery suitable for manufacturing purposes; 40 miles from New York by water or railroad. Address

W. R. Wadsworth, Room 9, 155 Broadway, New York.

JOHN R. WHITLEY & CO.,

European Representatives of First-Class American Houses,

WITH FIRST-CLASS AGENTS

Principal Industrial and Agricultural Cities and Centers of Europe. TERMS ON APPLICATION.

LONDON, PARIS. 7 Poultry, E. C. 8 Place Vendome.

9 Pemberton Square, Boston, Mass., Issue Licenses to use the Process for the Manufacture of Iron and Steel

the Bessemer Converter, Crucible, Siemer Martin, Puddling, Blast and Cupola Furnaces, The use of this Process improves the quality of the product, saves fuel and labor, and does not require any change in furnace or manner of working. See page 17 of The Iron Age of Oct. 25th, 1877.

For Sale.

Stock of hardware, stoves and implements, and store furniture, in one of the best towns in Kansas HARDWARE, Address Box 366, Salina, Kansas

FOR SALE. 100 tons T Rails, 45 lbs. per yard, fit to relay.
50 tons 12 in. I Beams.
30 tons 1½ in. Rounds.
30 tons 9 is. Deck Boams.
20 tons 4½ in. Rounds.
From Elevated Railroad of N. Y. Apply to
A. & T. ROBERTS & CO.,
265 South 4th St. Philadelphia

265 South 4th St., Philadelphia.

For Sale.

The whole or half interest in a valuable Iron deposit, together with 500 tons of Ore already nined. Also, three leases on well-known veins, showing from 60 to 90 degrees of attraction. Brokers and anonymous communications not no iced. Address IRON, Box 5.
Office of The Iron Age, 83 Reade St., N. Y.

office of The Iron Age, 83 Reade St., N. Y.

A N EXPERIENCED HARDWARE man, fifteen years in one large house in this city. Was bookkeeper, cashier, stock buyer, sales man and one of the managers. Open for any position at a moderate and reasonable salary. First-class city references. Address, HARDWARE, Station L, New York City.

Special Notices.

To Manufacturers.

We are prepared to furnish

Recipes and Information

INDUSTRIAL PROCESSES. Address

PARK BENJAMIN'S SCIENTIFIC EXPERT OFFICE,

37 Park Row, - NEW YORK CITY.

JOHN E. SWAN & BROTHERS. IRON MERCHANTS,

Glasgow and Middlesbrough, Scotch & English Pig Iron.

c. f. i. to America and f. o. b. British ports. Old Iron Rails, Puddled Bars

AND MANUFACTURED IRON. BLOWING ENGINE

FOR SALE.

Built by I. P. Morris, Towne & Co., 36-inch Steam Cylinder, 84-inch Blowing Cylinder, 6-feet stroke.

Also, an Air Hoist, with 68 feet lift, 36-inch Cylinder.

They have been well taken care of, are in good working order and ready for immediate use. Ap-POTTSTOWN IRON CO., WILLIAM H. MORRIS, Treas .

Pottstown, Pa. TO MANUFACTURERS AND CAPITALISTS.

FLOWER PINS. PATENT FOR SALE.

Address J. H. PLUMMER,

1276 Pacific Street, Brooklyn, N. Y. TRUSTEES' SALE OF VALUABLE IRON PROPERTY.—Two New Charcoal River From Property. TWOSTEES SALE OF VALUABLE IRON PROPER TY-TWO NEW CHARCOAL BLEE IRON PROPER TY-TWO NEW CHARCOAL BLEAST FURNACES, FORTH OF THE THE STATE OF THE THE TY-TWO THE THE TY-TWO THE THE TY-TWO THE THE TY-TWO THE TY-TWO

TEMPLE O. HARRIS, Trustees. V. L. KIRKMAN, ASTONISHING POWER

PUNCHING & SHEARING PRESSES. See our illustrated advertisement on next to last page of this paper.

PEERLESS PUNCH AND SHEAR CO., 52 Dey Street, New York City.

For Sale.

23 in. x 48 in. CORLISS ENGINE. Can be seen running. Will be delivered latter part of this month. Also 18 in. x 42 in. Hewes & Phillips. Can be delivered at once. E. P. BULLARD, 14 Dey St.. New York.

Wanted--A Blast Furnace Founder. The Duluth Iron Company wish to engage a first-class Charcoal Furnace Founder. To one who has had experience in running a charcoal furnace, and can give satisfactory reference, steady employment with a fair salary will be given. Address, giving references and salary wanted, S. BHOWNELL, Supt., Duluth, Minn.

Wanted. A thoroughly competent Furnace Foundryman eapable of taking complete charge of the opera-tions of a Bituminous Coal Furnace, using native

Address stating references and salary expected, FOUNDRYMAN, Lock Box 1434, Cincinnati, O.

Wanted to buy, for Cash,

One Pair of chilled Rolls, sise about 18 x 38; including housings, riders, guide rest, fore plate, with or without foundation plates; in fact, complete. Must be chilled at least 1 inch and especially adapted for cold rolling Sheet Iron for Tin Plate. Address with all particulars,

J. F. DUFFY,

273 and 275 South Canal St., Chicago, Ill.

THE UNDERSIGNED have this day formed a copartnership under the firm name of Spaulding, Jennings & Co., for the manufacture of Steel. T. H. SPAULDING,

R. E. JENNINGS,

P. I. FITZSIMON.

New York, February 3, 1880. FOR SALE,

Job Lots and Bankrupt Stocks Hardware. Great bargains offered to the trade.

A. W. WHEELER,

141 Lake St. Chicago, FOR SALE.

Solid or Office o

A Pick

tate an lists of foundr; 185 feet, buildin, 230 feet, are all i condition ufactur unusual ered by in its im of the Detroit:

A desi Stoves, l of the be required business Addr Office

Special Notices.

BISSELL & WELLES, Auctioneers.

LARGE TRADE SALE

Hardware, French Tinned and Enameled Ware,

Wooden Ware, Table and Pocket Cutlery, S. P. Forks, Spoons,

&c., &c.,

COMMENCING ON

WEDNESDAY, February 18, And Continued on

THURSDAY and FRIDAY,

February 19 and 20, At 10 o'clock each day, at

83 Chambers and 65 Reade Streets, New York.

For the information of buyers we give below the line of goods, as far as possible, that will be sold on each day:

WEDNESDAY, February 18. The sale of above date will comprise a large line of all kinds of

SHELF HARDWARE.

Also about 350 lots of
French Tinned and Enameled Ware.

direct from the factory, and comprising a large line of Tinned and Enameled Dish Pans, Tea Ket-tles, Sauce, Fry and Mik Pans, Preserving Kettles, Wash Basins, Pails, Ladles, Spoons, &c., &c. Also a large line of Wooden Ware, comprising Cedar Pails and Tubs, O. G. and Army Pails, Shovels and Spades, &c.

THURSDAY, February 19.

The sale of this day will comprise in part a large line of Edge Tools, Hammers, Hatchets, Brass Bolts, Hand Saws, Brackets, Sash Fasts, Brass Cupboard Locks, Solid Bronze Store Door Han-dles, Brass Hooks, Coffee Mills. Also 500 dozen Files, assorted Mill, Flat and Hand Bastard, Horse Rasps, Taper Files, &c., &c.

Also at 12 o'clock, by order of the AMERICAN SCREW COMPANY, 126 Cases Continental Cimlet Pointed

Comprising about 30,000 gross desirable sizes, assorted as follows: 43 cases containing about 250 gross each, assorted sizes, 10 cases \$\frac{1}{2}\text{7}\text{7}\text{7}\text{2}\text{3}\text{2}\text{2}\text{3}\text{3}\text{2}\text{3}\te

FRIDAY, February 20.

By order of the Cutlery Association, about 12,000 dog. Table Cutlery, Butcher Knives, Carvers, &c., American seconds, comprising a large and desarable assortment. Also, large line of foreign and American Pocket Knives, Solid Steel Plated Knives, Silver Plated Spoons, Forks, &c. We would call the attention of the trade to the line of goods offered at this sale as being well worthy their attention. The entire catalogue will be sold without reserve.

BISSELL & WELLES, Auctioneers, 83 Chambers & 65 Reade Sts., N. Y.

Foundry Property For Sale.

The property known as Jackson and Wiley's Four-dry, Detroit, Mich., 10 offered for sale. The Real Estate and Machinery will be sold separately. Detailed lists of Tools will be furnished on application. The foundry has a frontage on Woodbridge St., West, of 185 feet, running back to Congress St., 29 feet. The buildings run from Woodbridge St. to Congress St., 250 feet, with a frontage of 125 feet. The buildings are all in good order, and the machiner all the condition. To parties in Detroit, this property offers unusual advantages; not only in the large area covered by the buildings and its ample yard room, but in its immediate proximity to the terminus of most of the Railroads centering in the city, and to the Perof triver.

For full particulars, address

For Sale.

A desirable business consisting of Hardware, Stoves, Bar Iron &c. Established 20 years in one of the best towns on the Hudson river. Capital required from \$4000 to \$3000. Owner has other Address HARDWARE, Box 17,
Office of The Iron Age, 81 Reade St., New York.

For Sale.

A Machine to Punch Axe Poles-Cohoes Pattern, with Shop or State Rights.

"BOLTON." Address Office of The Iron Age, 83 Reade St., N. Y.

For Sale.

A Pick and Mattock Machine to Punch Solid or lip Eyes, with Shop or State Rights. "MILTON,"

Office of The Iron Age, 83 Reade st., New York. WANTED—A position by a man of eight years' experience in an architectural foundry in a wings and construction, and is familiar with estimating. He is also a bookkeeper. Best references. Address

Office of The Iron Age, \$3 Reade St., N. Y.

Special Notices.

A LARGE ASSORTMENT

NEW AND SECOND-HAND

MACHINERY

STEAM ENGINE MACHINERY. Corliss Beam Condensing Engine 30 in.x72 in. Delamater Sugar-house Engine 26 in.x48 in. Corliss 40 horse power, 10 in. x24 in.
Horizontal Engines, new 9 in. x16 in.

Engine 10 in. x12 in.

Engine 20 in. x16 in.

Engine 20 in. x12 in.

Engine 20 in. x12 in.

Engine 20 in. x12 in.

Portable Engine, 12 horse power. Hoisting Engine, 15 ...
Upright Engine, 16 in.x16 in.
Horizontal Engine, 16 in.x30 in. One Upright Engine, 7½ in.x10 in.
One Upright Engine, 7½ in.x10 in.
One and Boiler con

One Boiler, 6 ft. x15 ft. 58 4½ in. Tubes.
One "5 ft. x15 ft. 53 4½ in. Tubes.
Two "5 ft. x14½ ft. 100 2¾ in. Tubes. MACHINISTS' TOOLS.

3 "24 in x 5 it. x 2 ft.
6 Grank Planer, 13 in. x 2 ft.
6 Grank Planer, 13 in. x 2 ft.
6 Grank Planer, 13 in. x 2 ft.
6 Travis' Boring Machines,
htteen Drilling Machines,
Root Blower,
6 Bogardus Mill, No. 5.
6 Pair Hand Shears, Pope's Patent,
6 Large Power Punch for bridge work,
6 gace ton Hydraulic Press and Pump.
6 Dudgeon Beam Punch,
6 Upright Drill, to the center of 6 in,
6 Upright Tools.

er Makers' Tools. Hand Punch to the center of 36 in. One " Rolls, 54 in. Top Roll Steel, One hundred Vices, Second-Hand Belting. PUMPS

One Knowles Special Pump, No. 7, One Woodward Steam Pump, No. 4, One Cameron Steam Pump, No. 2, One Guild & Garrison Steam Pump, No. 3, One Guild & Garrison Steam Pump, No. 1, J. GRAY'S MACHINERY DEPOT.

37 Day Street, New York, U. S. A. Machine Shop and Car Works for Sale.

The Weimar Machine Works and Lebanon Car Works, located at Lebanon, Pa., on the line of the Lebanon Valley R. R., are offered at private sale. Possession to be given on the 13th day of April, 1850, with the privilege to the purchaser of finishing all unfinished orders.

Car works have a capacity for making 50 eightwheel cars per week.

The works are offered for sale in consequence of the death of one of the proprietors, and are now full of remunerative orders. For further particulars and terms, address.

WEIMER BROTHERS, Lebanon, Pa., P. L. WEIMER,

L. E. WEIMER,

ELIZABETH WEIMER, Executrix.

Europe.

Matheson & Grant's

Address is

32 Walbrook, London, England.

relating to engineering and metals in Europe.

MATHESON, WALBROOK, ENGLAND.

The Hull Forge Company,

Hull, England,

MAKE

BARS AND FORGINGS

erroit river.

For full particulars, address
For full particulars, address
For full particulars, 300 Fort St., West, or
J. WILEY, 300 Fort St., West,
WM. B. RÖBINSON, 335 Fort St., West,
Detroit, Mich.

FOR Hull to United States. Address entirely from Scrap Iron, and can ship direct HULL FORGE CO.,

32 Walbrook, London.

Wanted.

Ten to 20 ton stroke Steam Hammer, 4 to 5 feet stroke. Modern style and in good condition. Address MITCHELL, TRANTER & Co.,

Cincinnati, Ohio Magnetic Iron Ore Property and

Bloomery. For sale, in North Carolina, a Bloomery of four fires, with machinery, engine and buildings in good order, together with 500 acres land on which the ore beds are opened.

T. B. ENGLISH, No. 233 South Third street, Philadelphia.

Wanted.

To exchange cash and some real estate for a

ROBERT LUCAS, Fremont, Ohio.

Trade Report.

Office of The Iron Age. Wednesday Evening, February 11, 1880.

At noon to-day the United States Assisant Treasurer began opening the proposals to sell bonds to the sinking fund, which had been received in response to the invitation issued last week by the Secretary. The amount wanted was \$11,000,000. The total offerings amount to \$11,625,000, the three largest offers being the First National Bank, \$5,300,000; Fisk & Hatch, \$2,000,000, and J. & S. Wormser, \$1,500,000. The sum of \$3,260,060 sixes of 1881 were offered at 105½ and under, the market price being 105½, The sum of \$1,346,000 fives of 1881 were offered at or under 103½, the market price being 103½ @ 103½. The balance offered were ½ @ ½ above the market.

At about three o'clock this afternoon the

At about three o'clock this afternoon the following dispatch from Secretary Sherman was received by Assistant Treasurer Hill-

"Accept all offers of 6's of 1880 at 10334 and under; all 6's of 1881 at 1051/2 and under; all 5's at 1031/2 and under.'

This will make up nearly if not all the \$11,000,000 advertised for.

The specie importations for the week ending February 6 amount to \$216,980, of which \$211,591 was gold and \$5389 silver. The total since January 1 is \$1,092,018, consisting of \$765,714 gold and \$326,304 silver. From August 1, 1879, to February 6, 1880, the importations reached \$79,100,699, including \$76,024,995 gold and \$3,075,704 silver. Of this amount, \$46,229,564 has been received from the Continent, \$26,271,884 from Great Britain and \$6,599,251 from West Indies and South America.

The ruling rate for call loans in the local Ohio and Mississippi.... money market has been 5 @ 6 %, with occaional loans as low as 3 @ 4 %.

Government and Railroad bonds have been strong and active.

The stock market has been alternately heavy and strong, but strong in the main. The principal dealings have been in Erie, Wabash and Pacific, Lake Shore, C., C. and I. C., Canada Southern, Iron Mountain and St. Paul.

the coal stocks. The bank return shows a loss of \$648,375 in surplus reserve, which now stands at \$3, 331,450, against \$14,137,875 at this time last year, and \$14,095,650 at the corresponding period in 1878. The loans show a gain this week of \$7,137,100, the specie is up \$2,681,800, the legal tenders are decreased \$2,148,100, the deposits other than United States are up \$4,728,300, and the circulation is increased \$153,300.

The following is an analysis of the bank totals of this week compared with that of

THE A LOCK .				
	Jan. 31.	Feb. 7.	Comp	parisons
Loans	\$983,194,500	\$290,381,600	Inc.	7, 187, 10
Specie	50, 312, 800	52,994,600	Inc.	2,681,80
Legal t'nd'rs	18,586,000	16,437,900		2,148,10
Tot. reserve.	68,898,800	69,432,500	Inc.	533,70
Deposits	259,675,900	264,404,200	Inc.	
Reserve re-				
quired	64,918,975	66,101,050	Inc.	1,182,07
Surplus	3,979,825	3,331,450	Dec.	648,37
(Swaulation	01 520 030	01 681 000	fina	200.00

The foreign trade movements at the port of New York since our last issue are shown in the following tables:

IMPORTS

For the week ended Febuary 7: 1878. 1879. \$1,788,190 \$3,128,323 4,695,219 5,341,149 Dry goods..... \$2,184,917 General mdse.. 4,741,898 \$6,923,815 Since Jan. 1.... \$27,554,481 \$24,185,844 \$44,291,683

merchandise valued as follows:

Brass goods......1616 \$2,0747 1,556 Chains and at Copper Cutiery Gas fixtures. Gas fixtures
Guns
Hardware
Iron, hoop, tons
Iron, pig, tons
Iron sheet, tons
Railroad bars
Iron, other, tons
Lead, pigs
Metal goods
Nails
Nacelles Needles..... Nickel.... Old metal... Platina... Plated ware. addlery... Tin, bxs.... Tin, 10,171 slabs. Wire.... ..32,038 EXPORTS, EXCLUSIVE OF SPECIE.

For the week ended February to:

Since Jan. 1.... \$30,899,863 \$27,485,203 \$29,478,738 EXPORTS OF SPECIE.

For week ended February 7: Total for the week... \$129.813 Previously reported... 705,480 Total since January 1, 1880...... \$895,293

U. S. 6's 1880 registered . . . U. S. 6 % 1830 coupon.
U. S. 6 % 1831 registered
U. S. 6 % 1831 registered
U. S. 5 % 1831 coupon.
U. S. 4 % 8 1801 registered
U. S. 4 % 1807 registered

The following were the closing quotations of active shares: Alton and Terre Haute....

American District Telegraph Atlantic and Pacific Telegraph Boston Water Power ent. Arizona..

Hannibal and St. Joseph. Homestake Pre
Houston and Texas
Illinois Central.
Kansas Pacific
Kansas and Texas
Keokuk and Des Moines.
Jake Shore

Lake Erie and Western. ittle Pittsburgh La Piatta. Louisville and Nashville. Marietta and Cincinnati 2d F Metropolitan Elevated...

Metropolitan Elevated
Michigan Central.
Morris and Essex.
Mobile and Ohio.
Manhattan Railway.
Nashville and Chattan
New York Central.
New York Central.
New Jersey Central.
New Central Coal.
Northwest.
" Pref. Northern Pacific

Ontario Silver.... Pacific Mail..... Panania.... Quicksilver. Pref

Wabash and Pacific Western Union Telegraph

Business continues active and prices firm, with, as will be seen from the following, further advances in values. The demand for foreign Hardware is assuming considerable proportions, and we hear of some very large orders for importation being placed during the week.

GENERAL HARDWARE.

German Hardware has been advanced to per cent. since our last writing and is now quoted list net. Knitting and other Needles have been advanced 25 per cent and are quoted at to per cent, advance on list. Pearl Handled Knives have been advanced in Europe and. pending mail advices, importers of German Pearl Handle Pocket Knives have advanced

their prices about 10 per cent. Hermann Boker & Co. have just received a full line of Elwell's Weeding Hoes, which they quote discount 40 per cent, from the American list. They have also received a stock of Ward & Payne's Solid Cast-Steel, Included in the imports were items of (old number 39), which they claim is one of the finest cutting Shears ever shown in this

We have for some weeks omitted Horse Shoes from our quotations of wholesale 1,091 Shoes from our quotations of wholesale of conference of the reason, as many of our 38,268 readers are aware, that, owing to the unreaders are aware, that, owing to the unsettled condition of the Iron market, makers 5,398 of these goods have withdrawn their quotations in most instances. Russell & Erwin o,059 Mfg. Co. have in stock about 500 kegs of 150,561 Perkins' medium Horse Shoes, which they are offering at \$6 per keg.

The demand for Nails has been light during the week, and prices have remained as previously quoted. The tone of the market is decidedly strong, and many who should be well informed in such matters speak with confidence of a still further advance. The 213,398 Pittsburgh to-day, at which the card was advanced 25 cents, to the basis of \$5.25 for J.809 Tod. There is no disposition on the holders here to force sales, and orders for future delivery continue to be declined, except at prices ruling time of shipment. For the week. . . \$6,424,239 \$7,602,133 \$7,602,133 \$7,8 quote 10d. to 60d., \$5.25, net, in small lots, 39 to 41, Planes, The Stanley Adjustable | Iron...20 for lots of 200 kegs and over.

The manufacturers of Wood Screws have advanced the price of Flat Head Iron Screws to discount 35 per cent., the new price to take effect on the 12th inst. We Government bonds at the close were quoted the Union Steel Screw Co. have also adopted

price to take effect on the 12th inst. We print below the circulars of American Screw Co., Russell & Erwin Mfg. Co. and the Charles Parker Co. We are informed that the Union Steel Screw Co. have also adopted the same discount:

PROVIDENCE, R. L., February 12, 1880.

To the Hardwave Trade: Cancelling former quotations, we hand you below our present prices for Wood Screws. Freight allowed to New York, Boston, Philadelphia and Baltimore. Terms, cash, 30 days from date of invoice, in funds at par in New York.

124. Ifon Frame.

125. Plocket Levis. ... Ma.e.hunists'
125. Plow, Filletster. &c., combined 42. Plow, Filletster. &c., co

Boston, Philadelphia or Baltimore. Soliciting a continuance of your orders, we are,
Yours very truly,
AMERICAN SCREW COMPANY.

HOME TRADE-DOMESTIC LIST. Dis. per cent. Flat Head Iron... Round Head Iron... Flat Head Brass... Round Head Brass.

FOREIGN TRADE—EXPORT LIST.
Flat Head Iron.
Certificate of foreign landing to be furnished for obtaining rebate of duty on Iron.

[Circular Number 24.] SCREWS.

NEW YORK, February 12, 1880, Our Circular No. 23, dated January 21, 1890, is hereby annulled. Until further notice, our discounts and terms for Wood Screws will be as follows, viz.

Flat Head, Bright Iron. Dis. per cent.
Flat Head, Brass. 35
Round Head, Iron. 39
Round Head, Iron. 39
Round Head, Brass. 39
Lossh 30 days from date of invoice. No prices guaranteed. Deliveries only in New York, Philadelphia, Boston and Baltimore. We are also making the following varies

ties, for which we solicit orders: Iron Screws.—Flat Head, Blued; Flat Head, Japanned; Flat Head, Bronzed; Flat Head, Silver-Plated; Flat Head, Nickel-Plated; Round Head, Nickel-Plated; Round Head, Nickel-Plated; Round Head, Brass Screws.—Flat Head, Bronzed; Flat Head, Plated; Round Head, Bronzed; Round Head, Plated.

We challenge comparisons as to quality nd finish, and tests as to strength. We and finish, and tests as to strength. We shall continue to fill orders as heretofore, at prices ruling at date of shipment.

RUSSELL & ERWIN MFG. Co.

MERIDEN, Conn., Feb. 12, 188. To the Trade.—Gentlemen: On and after this date the discount on United States Screw Company's Wood Screws from present list will be as follows, viz.:

Per Cent Flat Head, Iron... Round Head, Iron Soliciting your further orders, and guaranteeing the quality of our Screws, we re-main Yours Truly,

THE CHARLES PARKER CO. Russell & Erwin Mfg. Co. have in press the following revised price list of Transom Lifters, which is subject to discount 20 per

cent. :

5-16 1 36 Length

8 4 3.40 5.10 3.40 5.10 3.40 6.40 4.30 8.13 9 4 3.40 6.85 4.55 8.65 10 4.50 8.13 10 6.85 4.55 8.65 10 6.10 10

All Brass and Dark Bronzed Lifters are same orice as Nickel Plated. Figured Lifters are 25 per ent, over Nickel Plated. No allowance made for horter lengths than given on the list. Any de-sired length made to order. The manufacturers of Rules have ad-

vanced their prices to discount 55 and 10 per cent, for Boxwood and 45 and 10 per cent, for Ivory. We print below the revised discount sheet

of the Stanley Rule & Level Co., to apply to their price list of January 1, 1879: STANLEY RULE & LEVEL CO. February 11, 18

Pages.

11. Awl Hafts.....

12. Awls, Patent Pegging.

13. Brad Awls, Handled.

14. Revels Sliding T. I, Bevels, Sliding T.

1, Bevels, Patent Flush Eureka.

2, Box Scraper, Adjustable.

5, Cabinet Makers' Clamps.

6, Chalk-line Reels and Awls.

6, Carpenters' Tool Handi.

7, Countersinks, Wheeler's Patent.

7, Dado, Filletster, Plow, &c., combi.

7, Dado, Adjustable.

8, Door Stops.

9, Door Fenders, Floor.

10, Gauges. 25. Level Glasses.

52 and 53. Mallets. | Hickory.
Lignumvitee.
44. Mitre Box, Improved.
28. " Squares, Improved.
28. " Try Squares, Improved. 36 to 38, Planes, Bailey's Adjustable Wood

Steel. NG,

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Mersich C. S. & Co.
Bar iron, bdls., 231
Milliken & Smith,
Wire rods, bdls., 1925
Nevada Bank,
Pig, tons, 700
Panama R. R. Co.
Old railroad iron,
tons, 670

tons, 670 Old railroad chains,

Pennsylvania Ry. Co. Galvanized iron, cs.

Pierson & Co.
Bars, 1058
Pope Thos. J. & Bros.
Bars, 20
Sanderson & Son,
Old ralls, tons, 150
Spinney T.
Old 1ron, pcs., 15,793
Wall P. J.
Wire rods, bdis., 1038Williamson J. & Co.
Pig. tons, 200
Wolff, Kohn & Co.
Rod iron, lots, 337

Metals.

Co. Old metal, pkgs., 37

Steel ..

Wire rods, bdls., For Canada, Bundles, 349 Lockwood A. J. Bundles, 50 Bars, 44 Naylor & Co. Steel plates, 4 Prosser Thos. & Son, Packages, 476 Sanders Bros. Blooms, 1003 Woodford W. O.

Blooms, 1098 odford W. O.

Phelps, Stokes & Co. Pig, tons, 200 Pierson & Co.

18 Try Squares, Improved, No. 1. draft, payable at sight. We print below a circular and revised discount sheet of Bemis & Call Hardware and Tool Company, issued under date of February, 1880: February, 1880:

OFFICE OF

BEMIS & CALL HARDWARE & TOOL COMPANY,
SPRINGFIELD, MASS., February, 1880.

To the Trade: We hereby give notice
that we have just made an advance in
prices on some lines of goods of our manufacture, this being the first increase in prices that we have made. The cost of production that we have made. The cost of production has continued to advance to that extent that we are now compelled to make an advance, and to this end have just issued the following revised discount sheet, to apply to our and revised discount sneet, to apply to our catalogue and price list of 1879.

All previous quotations are withdrawn. The quotations now given are subject to change without notice. BEMIS & CALL HARDWARE AND TOOL CO. NEW DISCOUNT SHEET. Bemis & Call Hardware and Tool Co. Springfield, Mass., February, 1880. Catalogue ages. Dividers. Compasses
Calipers, Wing.
Double.
Inside or Outside.
Call's Patent Inside.
Saw Sets, New Pattern Lever. " Check
" Spring
" Steelyards No. 3
" 14. All Other Steelyards
" Skinch Steel Marking Gauges
" Steel Bevels
" Gauges
" Back Squares
" Wrenches, " Merrick's Pattern"
" Briggs' Pattern"
" Briggs' Pattern"
" Cylinder or Gas Pipe
" Combination
" Combination
Terms Cash.—Payable in Boston Terms Cash.—Payable in Boston or New York funds. A discount of 2 per cent, if cash received within 30 days from date of invoice and not other-wise. Also, an extra discount of 1 per cent, for cash received within 10 days. We print below revised discounts for Cast Butts issued by New England Butt Co., the Clark Mfg. Co. and Ohio Butt Co: Office of the New England Butt Company, Providence, R. I., February 9, 1880. GENTLEMEN: On and after this date the

Drilled Cast Butts.

To the Trade: On and after this date the discount on "Clark's" Cast Loose Pin Butts (Patented November 20th, 1877), will be as follows:

rices not guaranteed and subject to change with-out notice. A small charge will be made for cases containing Door Butts, in every instance. If favored with your order it will receive prompt and careful att tention.

Yours, very truly, THE CLARK M'F'G CO 426 & 428 Niagara St., Buffalo, N. Y.

JOLIET, ILL., February 2, 1880. GENTLEMEN: On and after this date our discounts on Cast Butts will be as follows: Dis. per cent

Jap. Jap. Acorn. Parliament "

A further discount of 10 per cent, will be allowed on all bills remitted for within 30 days from date of same. This discount will not be allowed in any case when remittance is not made within specified time. We do not guarantee prices. Goods shipped at prices ruling on day of shipment. Discounts subject to change without notice.

Fast Joint Butts, Narrow.

Very respectfully,
Ohio Butt Company.

manufactured by them : AUBURN, N. Y., February 2, 1880. Owing to the continued rise in Iron, we

Catalogue

page. Inch Iron 5 3 3 7 2 1

14, No. 7 Derby Pattern. \$8,59 \$9.50 \$14.00 \$21.00

25, No. 2 25, No. 3 Cincinnati Pat 6 25 7.25 11.00 18.00

15, No. 4 6.25 7.25 1.00 18.50

16, No. 5 0.50 10.50 14.50

16, No. 6 8,50 ...

Caray Forge, \$37 @ \$38.

Scotch Pig.—For Scotch Iron, probably because it is fully \$5 a ton below the price of American Pig, there has been a fair demand during the week, and sales are reported of 1000 tons (Partshorism Pig.)

net cash, 30 days. Regular standard sizes to run from 2 to 30 lbs.

E. Ketcham & Co., 100 Beekman street, have issued the following price list for Ketcham's Patent Seamless Metallic Sieves, which are subject to discount 331/3 per cent. :

Size for Flour or Meal-123% in. diam.

..... 14 16 18 30 24 30\$4.00 4.00 4 25 4.50 5.00 6.50 doz 4.75 5.00 5.25 5.50 6.00 8.50 doz Size for Jelly,

in. (30 Mesh), \$4.00; ro-in. (24 Mesh), \$4.50; doz. The following joint circular explains itself:

TO THE TRADE.

February 10, 1880. We beg to call your attention to the following card, from which it will be seen that parties purchasing our Tucker Bronze Fin-ish Goods are exempt from any litigation for the past as well as for the future.

Union Manufg. Co.

627 TREMONT STREET, BOSTON, Feb. 9, 1880. To Whom it May Concern.-This certifies that the Union Manufacturing Co., of New Britain, Conn., have this day settled in full

for all infringements on my patents to date.
All persons who have bought, or may pur chase hereafter, goods made according to my patents by the Union Manufacturing Co., are and will be exempt from any and all claims from us on account chase and sale of such goods. HIRAM TUCKER. all claims from us on account of the pur-

Buell Lamberson, who has been connected with the Charles Parker Company for thirteen years, has resigned his position and is going to Portland, Oregon, to join Dayton & Hall in the General Hardware business.

Mr. L. has been on the road a long time, and his numerous friends will be glad to know that he has established himself in business. He has made arragements to Hall in the General Hardware business. continue his Price Book business in New York, and letters may be addressed to him as before, at 97 Chambers street, where they

will be promptly attended to.

We invite the attention of manufacturers desiring to find a good location, to the advertisement of the large factory property for sale at Passaic, N. J., which was lately oc cupied by the New York Steam Engine Co. In the advertisement referred to, and which will be found on page 11, a picture of the buildings is shown.

The City Council of Joliet, Ill., are pre pared to receive bids for the construction of Water Works. We invite the attention of parties interested to the advertisement of the Chairman of their Committee, which will be found among "Special Notices."

BRITISH IRON MARKET.

[Special Report by Cable to The Iron Age.]

LONDON, Wednesday, Feb. 11, 1880. Scotch Pig.-The market has fluctuated in both directions since last Wednesday, but is now firmer, closing with an advance over last week's quotations of 4/ on Gartsherrie. Glengarnock and Eglinton, and 2/6 on Coltness. The following are to-day's quo-

tations : Gartsherrie..... Coltness... Manufactured Iron-Issteady, and prices

firm, with a fair business doing. Best Staffordshire Bars are quoted unchanged at

Steel Rails.—The demand has fallen off somewhat, but prices remain firm. We quote £11, ordinary sections.

Iron Rails .- The demand is declining and very little is doing in them. Welsh are quoted £8 @ £9. 10/, a decline from last week's quotations of from 10/ to £1.

offering, and the demand is good. Transactions during the week have been pretty large. We quote £6. 10/, firm.

IRON.

American Pig.-The demand for Raw Irons has perceptibly fallen off and we cannot report a large transaction during the week under review. It is apparent to all in the trade that we are now going through a season of quietude, and it is a matter of much comment that the falling off in demand has not developed the slightest sign of weakness in values. On the contrary, we can quote the market strong at the prices named below. Manufacturers manifest no uneasiness re garding the future, or any disposition to sell The E. D. Clapp Mfg. Co. have issued the for forward delivery at current rates, and following revised price list of Fifth Wheels we hear of considerable difficulty in placing the small orders of consumers where prompt shipment is required, even on the basis of \$40 for No. 1. Sales are reported of 400 are obliged to advance the price of Fifth tons 2 X (a Lehigh brand) at \$39 at furnace, Wheels 75 cents a dozen, as stated below.

The following are our prices from this date, we quote same as last week: Foundry No. ct to change without notice. Terms, 1, \$40 @ \$41 : Foundry No. 2, \$38 @ \$39;

Sash Weights, in lots of 500 lbs. or more, 21/2 Iron on private terms, 100 tons Summerlee to what it was a short time ago, and the difcents per lb., net. For all dumb waiter and at \$34.50, 600 tons Eglinton in lots at \$32 @ ference is this, that in the extra size Sash Weights, ½ cent per lb. ad- \$33.50, and 100 tons Gartsherrie at \$33.50. vance over the above-named price. Terms, The market on the other side has advanced about 4/ a ton for Scotch Iron during the about 4/ a ton for Scotch Iron during the improvement will be permanent and improved upon." A cable dispatch has come to hand from cablegram. The arrivals of foreign Pig at Buenos Ayres to the effect that the Argenthis port for the week ending Feb. 10, amount to about 7000 tons. We quote: Eglinton, \$32 @ \$33; Coltness, \$35; Glen-

Rails, \$80 @ \$85. Old Rails.—Sales of 5000 tons on private

erms are reported. The demand has fallen off considerably, but prices are about the same as they were a week ago. We quote Ts, \$43, and D. H., \$45.

Scrap.-We hear of a sale of 1000 tons, to arrive, on private terms. Very little Scrap Iron has arrived during the week. We quote as before, \$43 @ \$45, from yard for No. 1 Wrought.

The Charcoal Iron Trade.

United States Association of CHARCOAL IRON WORKERS, SECRETARY'S OFFICE, PINE GBOVE FURNACE, CUMBERLAND CO., Ps., Feb. 10, 1880.

To the Editor of The Iron Age-DEAR SIR: The following summary of the char-coal iron market is made up from late correspondence with the various industries throughout the country. From some districts no reports were made, and therefore no quotations were given. Believing the information will be of value to your readers, I send the facts as given to me by the various members of our organization. Yours truly, John Birkinbine, Secretary.

New England car wheel irons are in good ceived.

blast pig iron is quoted from \$50 to \$60, at works; the average price of 800 tons sold is \$54.53, at furnace. Plate iron blooms from this region are held firmly at \$90 to \$95 per ton (2464 pounds) at works. Maryland hot-blast car-wheel iron is re-

ported at \$50 to \$55 at Baltimore, with ad-

vance sales at market prices.

Three sales of West Virginia cold-blast iron have been quoted at \$60 at Baltimore, while other sales are reported at \$35 at fur nace, the iron finding a market in nati

Alabama hot-blast irons are selling at \$35 for No. 1, and \$33 for No. 2 and mill at furnace bank.

The stock of hot blast charcoal iron in the Kentucky Hanging Rock region is light, and most of the furnaces are out of blast until new stock of charcoal can be obtained. The stronger grades, Nos. 2 and 3, enter into general consumption largely for foundry purposes. The selling prices delivered on the Ohio River are as follows: No. r Hot Blast.....

The Ohio Hanging Rock furnaces report a good demand, but not so active as a fortnight before. There is, however, no evidence of weakness. Sales have been made at Pittsburgh on four months, as follows:

week's quotations of from 10/ to £1.

Old Ralls.—The offerings are large and car-wheel works, mottled and white bringing \$45 at Cincinnati, and higher prices are \$1.40 for Prime American.

hand.

Lake Superior Bessemer is quoted at \$48
and \$52, and car-wheel iron at \$50 to \$55 at
Lake Michigan ports. Small lots of the
latter were sold in Chicago at \$50. An
offer for 7000 tons at \$52.50, in Chicago,
was refused last week.

As a large number of charcoal furnaces
are out of blast and others are about using
with a very's make of charcoal, it is probe.

up the year's make of charcoal, it is probable that by May 1st the market will be quite bare of stock. No decrease in prices is therefore probable. A considerable quan-tity of the pig iron now on hand is held to supply the charcoal forges until a new stock of iron can be made.

METALS.

Copper .- Although not much has transpired, sales of Lake Superior being restricted to 300,000 pounds at 24/5¢ @ 24/4¢, there is, nevertheless, a rather firmer feeling. We quote the market at the close as above, Baltimore bringing about as much. No change is reported per cable from England. "Lon-don, Jan. 24.—A combination of circumdon, Jan. 24.—A combination of circumstances of special interest has this week transpired, and which has tended to improve the position of this market, for the demand has greatly increased and prices have advanced. The first important feature to which we refer is the announcement of light charters from Chili, which are only 1500 tons for the first half of the month, and the price in Valparaiso is reported to have advanced from \$17.10 to \$19, and the second event is the sale by private contract mand during the week, and sales are respected of 1000 tons Gartsherrie, April delivery, on private terms, and 2000 tons of the recent meeting, adopted the following price

mand during the week, and sales are respected of 1000 tons Gartsherrie, April delivery, on private terms, and 2000 tons of the stock of Wallaroo held by the company of rather over 2000 tons.

The position of Copper is now very different the close of January nearly 1,700,000 tons.

The position of Copper is now very different the close of January nearly 1,700,000 tons.

ference is this, that in the first instance prices were artificially upheld, whereas now the rise is established upon a substantial basis, and there is good reason to suppose that the tine Republic may still feel called upon to interfere in the nitrate war on behalf of the allies. The Argentines are arming, and have Eglinton, \$32 @ \$33; Coltness, \$35; Glengarnock, \$34, and Gartsherrie, \$33 @ \$33.50.

Rails.—Sales are reported of 4000 tons
Iron Rails, but particulars are withheld. We quote, nominally, Iron, \$65 @ \$68, and Steel Rails, \$80 @ \$85.

Old Rails.—Sales of 5000 tons on private per here since our last report. We quote: Braziers' Copper, 34¢; Bolts, 34¢; Circles, 37¢, and Sheathing Copper, 32¢. Tin.—There has been no essential change

nere during the past week. Numerous 'spot" and "afloat" sales have been made and the general confidence in higher prices is still remaining. We quote large lines on the spot as follows: Straits, 24¢; Billiton, 23½¢; Australian, 23¼¢; Banca, 25¼¢, and Euglish, 23¼ @ 23½¢ for Refined and 23¢ @ 23½¢ for Common. London had advanced with Straits to £08, but has since fallen back to £95 @ £96; English Common is cabled £102, and English Re-Common is cabled £102, and Ēnglish Refined, £104. At Batavia, Feb. 9, 13,000 piculs Billiton were sold at 63.15 guilders per picul, the London parity of which is £98. Most of this Tin has been taken for Europe. The price obtained is equal to 22¢ here. Singapore cables the market unchanged. Arrivals at New York since our last have been 300 slabs Banca, 60 tons Straits per German steamer Electra direct, and 100 tons Billiton. Of the latter all due here, except 125 tons still afloat by sail, has arrived. A private cable dispatch from here, except 125 tons still afloat by sail, has arrived. A private cable dispatch from Australia reports that the production is still being curtailed. This is not to be wondered being curtailed. This is not to be wondered at, for when prices a year ago had reached a ridiculously low point in the consuming markets, many mines in Australia were abandoned, and it takes a good deal of time to have things again in proper working or Moulson J. bestowed on grain and cattle raising in Australia than used to be the case then. Messrs. Pennsylvania furnaces and forges are well tralia than used to be the case then. Messrs. sold up, very little stock of any kind being on hand, and a number of works have acdate of Jan. 27 that, after the late sale, which on hand, and a number of works have accepted orders for future delivery. Sales of Cumberland Valley hot-blast pig have been made at \$47.75 and \$50, f. o. b. at Harrisburg, and blooms for boiler plate find a ready market at the same point of delivery at \$92 and \$95. One sale of 100 tons is reported at \$100 per ton of 2464 pounds. Juniata cold-blast pig iron is quoted from \$50 to \$60 at into a more quiet attitude both as ready were during 11 months 100,567 piculs, against \$100 per ton of 2464 pounds. Juniata cold-blast pig iron is quoted from \$50 to \$60 at into a more quiet attitude both as ready into a more quiet attitude both as ready. toted from \$50 to \$60, at a price of \$00 tons sold is Plate iron blooms from a more quiet attitude, both as regards large parcels and jobbing lots. European advices by mail, Jan. 29, are favorable, firmly at \$90 to \$95 per works. 32/ is still the price for Coke Tin. We quote at the close, large lots, ordinary brands, per box, Charcoal Bright, \$10 @ \$10.25; ditto Ternes, \$9.25; Coke Tin, \$8.75; and ditto Ternes, \$8.37½ @ \$8.62½.

Lead.—The market wears a quiet, but yet firm, aspect; sales have been light, but the price remains 6¢ @ 61/4¢ for Common Domestic. Consumers are holding off, conmestic. Consumers with using up what supply they have left. Meanwhile Lead remains in strong hands, and no immediate Nothing mains in strong hands, and no immediate break seems to be apprehended. Nothing has transpired in Refined, which is firmly upheld at 6.35¢. Manufacturers' prices are unchanged. We quote: Bar, 6½¢; Pipe, 7¾¢; Sheet, 8½¢; Tin-lined Pipe 15¢, all less 10 ½ to the trade. No. 1 Solder, 13¢. "London, Jan. 4.—The market for this metal has remained fairly steady, although at the same time tolerably quiet. A moder-ate consumptive demand exists, but that for speculative account is limited, speculators at the moment having almost entirely for-saken the article,"

Spelter and Zinc.-Spelter at the West remains quite scarce. The Carondolet Co.
has stopped operations for the time being,
and the Martindale Co. is also slackening Sales at Cincinnati for cash average \$1.50 off. Prices of ores out there are held at per ton lower. Some Hanging Rock iron was recently sold in St. Louis at \$46 per ton. The supply of cold-blast car-wheel iron is short, and a considerable quantity of the harder hot-blast irons have been sold to considerable works mottled and white heigh rates. The market here is moderately active at 6½¢@ 7¢ for Domestic, and as much for Silesian. The importation of Spelter into the United States last year sum up some 2400 tons. We quote Sheet Zinc at 8½¢.

a fair business has been done. Prices are expected. A sale of cold blast is reported at \$50 at Ironton. Most of the furnaces will go out of blast this month. Three thousand tons, mostly No. 1 foundry, are reported on band.

Wrought Scrap.—There is very little Antimony.—The demand is as active as Dr. tracted for.

COAL

During the past week the trade has been somewhat improved by reason of the cold weather; it has been chiefly perceptible in domestic Coals, and in those marketed by individual operators. There has been, in fact, a considerably more hopeful feeling in the trade. The great companies show no dispotion to cut prices and are helding firmly to tion to cut prices, and are holding firmly to their circular rates. Most of them are busy with their line trade, and, although they are working full time, are arranging things at the collieries so as to make as large are amount of furnace Coal as possible. In a amount of furnace Coar as possession few instances we hear of operators sending "the run of the mine" to furnaces, which course relieves them of the necessity of getting rid of any of the domestic Coals. We hear that the stocks are rapidly increasing and in some cases the companies are begin

ning to load into boats.

The furnace trade along the lines is very good and the demand from manufacturers brisk. Most dealers seem to be encouraged

were reported. The figures for the line trade are not at hand, but from all sides come the reports that it is very heavy.

IMPORTS

Of Hardware, Iron, Steel and Metals intothe Port of New York, for the Week ending Feb. 10, 1880 :

Aspinwall T. & Son, Files, pkgs., 8 Baldwin Bros. Machinery, pkgs., Birkenshaw W. C. Boker, In

Hdw. and cutte pkgs., 48
Bryce Wm. & Co. Hdw., cs., 1
Chauncey, Robbins
Co.
Cuttery, cs., 2
Crabb Wm. Steel wire, csks., s Grindstones, 30 rexel, Morgan & Co. Oil bbl. hoops, bdls.

Dunham, Buckley & Co. Steam engine, bxs., Field Alfred & Co.

Wolff, Kohn & Co. Rod fron, lotal, 337 Order, Band fron, bdls., 616 Bar Iron, bdls., 302 Bars, 13,258 Bundles, 420 Hoop, bdls., 7229 Old rails, 264 Old rails, kilos., 486,-286 old rails, pcs., 9758. Old rails, tons, 2800. Old tires, tons, 15½ Ore, tons, 1775. Pig, tons, 1463. Railroad iron, bars, Huber J. Machinery, os , 2 Round iron, bdls., Sorap, tons, 397% Sheet iron, bdls., 377 Sheet iron, plates, 45 Spiegeleisen, kilon., 203,263

Moulson J.
Hdw., caks., 6
Perkins & Co. Coal, tons, 600 Pim, Forwood & Co. Nails, kegs, 50 Mdse., pkgs., 2
Rothschild L. & Bros.
Hdw., cs., 4
Sampson, Alden & Son
Machinery

Bruce & Cook,
Tin plates, bxs., 929
Cort N. L. & Co.
Tin plates, bxs., 3056
Dickerson, Van Dusen
& Co.
Tin plates, bxs., 778
Tin and terne plates,
1272 Machinery, cs...
Hartley & Graham
Mdse., pkgs., 2
Arms, cs., 5
Sellers W. B., Jr.,
Mdse., pkgs., 2 Tin and terne plates,

Hagan & Billings,
Lead, bars, 8:
Hewett Wm. & Co.
Tin plates, bxs., 45eHurley Geo.
Brass, sacks, 84
Copper, bales, 3
Zinc, bales, 2
Lamarche, H.
Zinc, cks., 18o
Lawrence, Johnson & Co. Mdse, pkgs., 2
Shipper H. L.
Wire rope, caks., 1
Sussfeld, Lorsch & Co.
Hdw., cs., 4
Thompson John,
Hdw., cs., 2
Tillotson L. G. & Oo.
Galv. tel. wire, lots

Thurber H. K. & F. B. Machinery, cs., z Ward Asline, Hdw., cs., 6 Wetzler M. Mdse., pkge., z

Old metal, pkgs., 37
Meyer M.
Lead, bars, 1261
Phelps, Dodge & Co.
Tin plates, bxs., 513
Tin, slabs, 300
Pim, Forwood & Co.
Tin, slabs, 174
Pratt C. & Co.
Tin plates, bxs., 1080
Windmuller L. & Rolker,
Zinc, caks., 64
Order,
Conner, ingots, 26.-White John L.

Machinery, cs., 70
Wiebusch & Hilger
Hdw. Co. Hdw. Co.
Chains, esks., 43
Hdw., bdls., 2
Hdw., csks., 23
Wilcox Dan. H.
Hdw., csks., 4
Hdw., csks., 4
Cutlery, cs., 2
Wite J. G. & Bros.
Cutlery, cs., 9
Wolff. H. & Co. ler, Copper, ingots, 26,-872 Lead, pigs, 1846 Terne plates, bxs., Tin and terne plates and black taggers, bxs., 1136 Tin, ingots, 1046 Tin plates, bxs., 17,-

ler, Car bearings, cks., 3 Chains, csks., 95 Cutlery, cs., 3 Grindstones, 90 Hdw., cs., 2 Tin, slabs, 4343. ronware, pkgs., 1662 Machinery, cs., 28 Brown W.
Bundles, 210
Cases, 5
Carey & Moen,
Wire rods, bdls., 219

Bank of New York Na-tional Banking Asoil barrel hoops, In 1980 Baring Bros. & Co. Fig. tons. 300 Fig. a quantity Carvill Francis & Son, Fig. lbs., 12,345 Scrap, lbs., 23,765 Coddington T. B. & Co. Sheet iron, bdis., 22 Pig, tons, 1531 exel, Morgan & Co. Hoops, bdls., 1997

Hoops, bdli Irwin R. & Co. Pig, tons, 7 Lee Jas. & Co.

Bars, 42 Bundles, 250 Order, Bundles, 703 Cases, 20 Casks, 16 Spring steel, bdl.,60 Steel rail crops,tons, Steelware, pkgs., 7

OLD METALS, PAPER STOCK, &c.

The Old Metal market is not so active this week as it might be, and prices have proba-bly reached as high a point as they are going to. The Rag and Paper Stock market continues very firm.

The purchasing prices offered by dealers for Old Metals are as follows:

Copper, heavy per h	. \$0.18	.20
Copper Bottoms	.15/2 @	.165
Yellow Metal 10 15	,TO O	.II
Brass, heavy		
Brass, light	.12	.13
	.08 1/2 @	.00%
	.35 @	.16
Lead, heavy	.04 1/4 60	.043
Tea Lead		
Zine 45		.04%
	.03 %	.04%
	.12 @	.13
Pewter, No. s	.07 @	.08
Wrought Ironper ton	35.00	
Light do		37.50
Stove Plate	22.50	25,00
	15.00	17.00
Machinery do "	22.50	25.00
Grate Bars	10.00	12.50
	10000 60	22.30

The prices current for Rags, &c., are as Kentucky bagging Book Stock Newspapers Waste Paper and Scraps Kentucky Bale Rope

agg the agg ru we steem of mass buy impossible so comiss approximately approximately approximately approximately aggregately approximately aggregately aggregately

EXPORTS

Danish West Indies. Quan. Val. Mach'y, cs... 10 \$533 Coal, bbls ... 200 200 Quan. Val. Mach'y, cs... 8 \$2,400 Mach. oil, cs.. 10 130 Cartridges, cs 11 307 Glassware, cs. 23 150 Hdw. cs... 9 62 Hayti. Antwerp. Hdw., cs..... 26 950 Mf. iron, pkgs 4 79 Ag, imp., pkgs 36 2,620 Glassware, cs. 5 65 Lub. oil, gals.2395 597 Central America. Dutch West Indies. Hdw., cs..... 3 Coal, tons.... 7 Ptlm., gals... 600 Tinware, cs... 4 43 Mf. iron, pkgs 9 198 Glassw're, cs... 10 99 Ptlm., gals.. 8286 943 Arms, cs.... 2 Brazil. Hdw., pkgs.. 560 Ptlm., gals.. 78,725 Iron, cs..... 33 Sew.mach., cs 72 Copenhagen. Hdw., cs..... 23 505 Iron safe..... 1 112 Pumps, pkgs. 3 200 Glassw'e, cs... 51 062 Mf. iron, pkgs. 5 800 Ag. imp., pkgs. 10 630

Dutch East Indies. Ptlm., gals. 191,220 19,896 ew.mach., cs 148 2,769 Sew.mach., 68 148 2,769 Pitdware, 68. 3 151 Wash. ma., 68 20 125 Pistols, 68. 1 4 400 Mach'y, 68. 1 18 4,325 Pilm., gals. 195,114 15,700 Hdw., pkgs. 1 14 1,684 Belting, pkgs. 6 1,108 Belting, cs... Glassw'e, pgs. Platina, pkgs. Pins, cs.... Guns, cs.... Cartridges, cs Venezuela. Cartridges, cs 4 Bremen.

.gls.2.272,750 181,768 Ag. imp., pgs.
Pitd. goods, cs
Hdw., cs..... Ptlm., gals.304,263 23,000 Pumps, pkge. 1 44 Lub. oil, bbls. 346 3,932 Mf. iron, pkgs 14 325 Ag. imp., pgs. 8 250 Hdw., cs..... 24 366 Glassw'e, pge Shot, bxs.... Mach'y pkgs. Nails, kegs....

Mexico. Canada. toan Colonies. Coal, tons... 521 1,954 Ptim., gals... 500 85 Mf. iron, pkg8 2 62 Liverpool. 12 450 68 4,916 70 4,528 23 227 4 222 8 1,668 pltdw'e, cs 12 ich'y, cs... 68 Revolvers, cs. Ag. imp., pkgs RR, mtl., pkgs Grindst's, pgs Bar lead, bxs. Telphnes, pgs 4 250 Ptlm., gals.236,130 20,000 London.

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Pumps, pkgs... Br's shells, cs Candlestks, cs Fire extghs, cs Zinc, csks... Mach'y, cs... 2 Lub. oil, gals. 4776 Pitd. ware, cs 3 Sew. ma.. cs. 31 450 935 370 895 Bristol. Mf. lead, pkgs = 8. w. appr.,pgs 4
R R cars..... 6
Mf. cop., pkgs 2
Telephones,cs 3
Wire, pkgs... 80
Shot, bxs.... 11 ore, sks .. 313 2,250 w., cs ... 3 192 o. oil, gals. 546 382 Lub. oil, gals. 546

Naples.

lombia.

Hull. Ag. imp., pgs. 103 24,530 Glasgow. Mach'y, pkgs. 4 225 Hdw., cs..... 8
Mf. iron, pkgs 3
Iron rolls, cs... 8 315 362 Aden. 400 Ptlm., gals.100,000 16,00 Belfast. United States of Co-Lub. oil, bbls. 211 2,447

Lub. oil, bbls. 211 2,447

| Havre. | Hdw., cs... 244 2,965 |
| Mf. iron, pkgs 182 1,093 |
| Pithus, gals. 147,822 9,980 |
| Glassware, cs. 1 110 |
| Ag. imp., pgs. 30 4,009 |
| British Honduras. |
| Ptlm., gals. 200 25 |
| Wire cl'th, ris 2 49 |
| Hdw., cs... 27 168 |
| Sew. ms., cs. 3 177 |
| Wire, pkgs. 6 75 |
| Wire cl'th, ris 2 49 |
| Hdw., cs... 3 47 |
| British Possessions 4 |
| Africa. |
| Ptlm., gals. 15,880 2,580 |
| Ag. imp., pgs 28 5,634 |
| Hdw., cs... 498 7,864 |
| Hdw., cs... 498 7,864 |
| Hdw., cs... 244 2,965 |
| Mf. iron, pkgs 182 1,093 |
| Mis. cs... 24 2,065 |
| Mf. iron, pkgs 182 1,093 |
| Mis. cs... 24 2,065 |
| Mf. iron, pkgs 182 1,093 |
| Wire, pkgs... 3 177 |
| Wire, pkgs... 6 75 |
| Wire, pkgs... 6 75 |
| Wire, pkgs... 760 |
| Machly, pkgs... 180 |
| Sew. ms., cs... 6 288 |
| Sew. ms., cs... 6 288 |
| Sew. ms., cs... 5 1,024 |
| Cartridges, cs... 5 1,220 |
| Cartridges, cs... 5 1,220 |
| Cartridges, cs... 5 1,230 |
| Cartridges, cs... 5 1,30 Ptlm., gals., 15,880 2,580 Ag. 1mp., pg8 283 5,634 Hdw., cs..... 498 7,804 Pumps, pkgs... 5 205 Lead pipe,bxs 15

Guns, cs..... r Shot, bags... rr Tinware, cs... 7 Powder, pkgs. r8r Canary Islands. Ag. imp.. pgs. 9 124 650 111 British West Indies. llassware, cs. 11 Scale 1
 Oubda,
 Mach'y, pkgs. 242
 3,019
 Mf, iron, pkgs. 13
 272

 Nalls, kegs... 95
 2,42
 3,019
 Malls, kegs... 95
 544
 Hdw., cs... 95
 1,312

 Nalls, segs... 42
 230
 Mach, oil, gals 640
 280
 Mer. metal, cs... 3
 30
 in

 Pilm., gals... 27,543
 3,225
 Malls, kegs... 95
 1,312
 Sew. ma., cs... 3
 30
 in

 Nalls, kegs... 42
 23
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 Wire, pkgs... 42
 463
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 in Ptlm., gals..27,543 3,225 Mf, iron, pkgs 13 272

ew. mach., cs 25 1,193 t.R. mtl., pgs. 1007 3,786 has fixts, cs.. 2 197 Ptlm., gals. . 20,000 2,30 Les Sables D'Olonne Cisplatine Republic. Ptlm., gals. .68,200 8,355 Ptlm., gals. 127,850 10,224 Pasages. Porto Rico. Nails, kegs... 130 404 Hdw., cs..... Ptlm., gals. 161,769 13,130

PHILADELPHIA.

Office of The Iron Aye, 220 South Fourth St., | PHILADELPHIA Feb. 10 1880.

PHILADELPHIA Feb. 10 1880. F
Pig Iron.—There has been so little change during the week that our last report might again be used as defining the condition of the market at this date. Four or five days ago things looked decidedly weak, and rumors of sales at materially lower rates were frequently mentioned. At the moment, so far as we can find, there is a steadier feeling, and although there is nothing like activity or urgency in the demand, prices are fairly maintained, and buyers would have difficulty in obtaining important concessions from first hands. Sales in some instances have been made at

aging. As an offset, however, we have to note continued purchases of foreign Iron, both spot and to arrive, and there is no \$30 @ \$32, and Wrought at \$41 @ \$42.50. doubt that this material is receiving more attention from leading consumers. The future of the market is difficult to define; the feeling of confidence mentioned in our last shows no signs of weakening, and higher prices seem to be regarded as only a question of time. As this opinion appears to be held by the most successful men in the trade, it is entitled to consideration, although there are good reasons for taking an opposite The greatest difficulty in the way of an advance, so far as we can see, is in the competition with foreign Iron. This we referred to at some length last week, and it is only necessary now to say that the volume of business in foreign Iron is increasing, owing to its cheapness, and as there is a fair margin to the importer, it is likely that business in this direction will continue to in-crease until prices here and abroad become more in proportion. We repeat last week's quotations, although, as previously stated, prices are still somewhat nominal and inprices are still somewhat nominal and inclined to be easy, as follows: American Iron, Philadelphia delivery: No. 1 Foundry, \$41 @ \$43; No. 2 Foundry, \$39 @ \$40. Gray Forge about the same price. North of England, \$32 @ \$35, with offerings, to arrive, at \$2 @ \$3 \$7 ton less money.

Muck Bars .- We have no sales to report but holders are firm at \$65, with buyers at \$62.50.

Structural Iron.-The market has been very quiet, and we understand that desira-ble orders can be placed at material concessions from quoted rates. The mills appear to be getting pretty well through with their contracts, and in the competition for new business rates have been cut quite sharply The outlook is said to be very encouraging but as manufacturers are anxious for imme diate business, there is considerable irregu larity in prices, which, however, are nominally as quoted last week, viz: Angles, 4¢; Beams, Channels and Tees at 4.5¢.

Plate and Tank Iron.-There is more inquiry and prospects of an active trade towards spring, but in the meantime sales have not been of special importance. Prices are nominally a trifle higher, owing to the increase in cost of production; but buyers increase in cost of production; but buyers claim that they can place orders at something near the old rates—say 2.10¢ to 3.10¢ below the present asking rates. We should be inclined to predict higher prices if it were not for competition with foreign Iron, a considerable quantity of which is said to be offering at lower prices than Americap. In cases in which the plates have to be cut to specified sizes, orders have to be placed with local manufacturers, and it is said that there will be ample employment for all that there will be ample employment for all the mills, so that prices will probably be maintained, viz.: Tank, 4.5¢; C. No. 1, 4.7¢; C. H. No. 1 Shell, 4.9¢; Flange, 6½¢; Flange Fire-Box, 7½¢; Best Bloom, 8¢.

Sheet Iron .- The market has been a trifle quiet during the past week, and continues so for the time being. Manufacturers ap-pear confident of being able to hold prices steady, and unless at full rates are not dis-posed to enter orders. Stocks are pretty low, and as the demand is certain to increase, the mills will be kept running on goods to be carried until the demand is more press-

ing. Prices week, viz. : Prices are about the same as last Common Sheet, No. 26 to 28...
Common Sheet, No. 25 to 25...
Common Sheet, No. 16 to 21...
Best Refined ½ệ advance on the above.
Best Hloom Sheets, No. 26 to 28...
Best Bloom Sheets, No. 26 to 25...
Best Bloom Sheets, No. 26 to 27...
Common Beet Bloom Sheets, No. 16 to 21...
Common Bed Plates 216 to 46. Common Red Plates, 3-16 to 21....
Blue Annealed, 3-16 to 16.
Rest Bloom Galvanized, discount
Second quality, discount
Bar Iron —Thi-

Bar Iron.-This department of the Iron fractory condition. Business in point of vol-ume is all that can be desired, but prices and cost of production have been forced entirely too high. At the rates now current for labor and material, it is said that there is but little margin at 4¢, while foreign Iron can be sold at 3.8¢ and leave a fair profit to the importer. Unless markets abroad ad-At 3.8¢ there is a heavy demand, while at 3.9¢ to 4¢ buyers are not taking hold freely, and manufacturers are equally unwilling to

sell at the lower price. Steel Rails.—There is no change to note. Sew. mach. os. 7 343 Nails, kegs... 12 50 Sales have been made at \$85, at mills, in Mr. iron, pkgs 178 5.176 French West Indies. Grindstones. 500 Mach. oil, gals 110 67 Ptlm., gals... 2000 245 mand during the spring, and prices are firmly

Iron Rails.—There has been an active nand during the week, and sales to a considerable amount have been effected at about figures quoted in our last. In some cases prices have been a little easier, parti-cularly on light Rails, but under a steady demand we have to note renewed firmness. and it is quite likely that outside quotations will be realized at an early date. Manufacturers having entered considerable business at about \$68 @ \$70 for heavy, and \$75 @ \$78 for light sections.

\$30 @ \$32, and Wrought at \$41 @ \$42.50.

Nails.—Prices are unchanged, and a fair amount of business has been done during the week at \$5.25, less the usual discount to

PITTSBURGH.

(By Telegraph.)

PITTSBURGH, PA., February 11, 1880. The Western Nail Manufacturers' Associ ation, at their meeting to-day, advanced the card on Nails to \$5.25 rates.

Office of The Iron Age, 77 Fourth Avenue, Pritsburgh, Pa., Feb. 10, 1880.

Pig Iron.-The market has been exceed ingly dull the past week, and while prices remain unchanged, the feeling, as might be expected, is weak. Consumers have nearly expected, is weak. Consumers have nearly all contracted for from one to four months' supply, and being apprehensive that prices have reached the highest notch and that possibly a reaction is near at hand, they feel like reducing instead of increasing their supply. This accounts for the dullness now prevailing. Owing to the numerous coal strikes recently there is an actual scarcity of coal, and a number of mills have been obliged to shut down their puddling furnaces in consequence, thereby decreasing the consumption of raw Iron. So far as the producing interest is concerned the offering are light, but some of those who bought on speculation appear to have become a little frightened and are endeavoring to realize However, there is an undercurrent of confi dence in regard to the future; and some of our most discerning operators predict that the present "lull" will be of short dura-tion and that it will be succeeded by renewed activity and a further advance, as the furnaces in the West are pretty well sold ahead. The offerings from first hands are likely to continue light for several months to come, while the quantity held by speculators is not large; it is enough in the present condition of the market to have a depressing influence, but with the first sign of an improvement it will either be purchased or withdrawn. A small lot in the hands of a speculator does more injury to the market than ten times as much in the hands of a producer, as the former is more easily frightened, and in his anxiety to realize does much toward demoralizing the market when there is, perhaps, really little or no occasion for it. We repeat last week's quotations: Bituminous Coal Smelted Irons from Lake Cres, No. 1 Foundry, \$44 @ \$45 4 mos.; No. 2 Foundry, \$42 @ \$43; Mill Forge, \$42 @ \$43 for Neutral, and \$44 @ \$45 for Red-short. Coke Iron from native ore, \$42 @ \$44, 4 mos., for Foundry, and \$40 @ \$42 for Mill. Little or nothing done in Anthracite Irons for several weeks past. Charcoal Cold-Blast, \$60 @ \$65, 4 mos.; Charcoal Blooms held at \$95 @ \$100, cash.

Manufactured Iron,-There is nothing particularly new to record. The situation remains substantially the same as noted in report of last week, with the exception that the tone of the market is not so strong, in sympathy with raw Iron, and then the recent advance was not without its effect in the same direction, as large buyers usually hold off for a time to ascertain whether or not the advance is likely to be maintained. While the last advance was a radical one, half a cent, and there was some opposition to it, current rates are lower relatively than Pig Iron, which, it is claimed by our manufacturers, with a four cent card should not rise above \$40 for ordinary brands of Pig.

Muck Bar-Is still quoted at \$63 @ \$65, ash, at mill. The stoppage of a number of puddling furnaces for want of coal, to which reference has been made elsewhere, will, if it continues much longer, increase the de-mand and thereby stiffen the market, as it is in light supply, nearly all the mills having been working it up as fast as they could

Bessemer Iron.-There have been no nessemer 1701.—Inere have been no sales reported since our last, and while possibly the tone of the market is weaker, prices remain unchanged. In the absence of sales we quote at \$45 @ \$47. It is expected that some of the largest consumers will be

is felt that prices cannot be advanced with what it is impossible to say. Manuhope of permanency until there is a correshope of permanency until there is a corresponding movement in English Iron. The mills have still some work on hand from contracts taken a few weeks ago, and there is no doubt that orders will be plenty; but if there is a material difference in price in favor of the foreign article, manufacturers will have to meet it in some way. The impression seems to be that Pig Iron will have to yield something, and is probably better able to do so than any other item of cost. At 3.8¢ there is a heavy demand, while at it looks now as if the prices would be fixed. it looks now as if the prices would be fixed at \$5.40 or \$5.50.

> Railway Spikes .- There is no falling off in the demand, nor is there likely to be for some time to come. Price remains unchanged at $4\frac{1}{2}\phi$, 30 days.

Horse and Mule Shoes .- Shoenberger & continue to quote in 100-keg lots at \$6 \$6.25, 30 days, for the former, and \$7 for the latter

Wrought Iron Pipe.—The new list and rate of discount for Steam and Gas Pipe is equal to an advance of 15 to 20 %, and there is an increasing business, buyers being apprehensive that a further advance is not imrobable. Boiler Tubes are still quoted at and 5 % discount; Oil-well Tubing, 2-inch, 35¢. net; do. 56 Casing, \$1, net.

cash, at mill. While the greatly enhanced Steel and Iron Rails have advanced over cost will of necessity curtail the demand largely, it is evident that the mills will have all they can do this year. Some of them are sold up until the close of the summer. Nothing doing in Old Iron Rails here. Supplies are still being drawn from the sea

Scrap.—There is a fair business at about st week's prices, which we repeat: No. 1 Mrought Scrap, \$44 @ \$45, net; Old Car Axles, \$48 @ \$50; Old Car Springs, \$42 @ \$43; Axle Turnings, \$20@ \$25; Old Car Wheels, per gross, \$44 @ \$45; Machinery Metal, \$28 @ \$30; Cast Borings, \$18 @ \$20.

Window Glass .- The demand is steadily increasing, especially for small sizes, and with scarcely any stock prices are firm, with with scarcely any stock prices are man, small orders taken by manufacturers in preference to large ones. The advance in French Glass will harden the market for American, but it is not likely that prices here will be pushed up any further for the present. Discounts on car-load lots are uoted at so and 10 % for single and 60 for ouble strength, and 50 and 50&10 in a jobbing way.

Coke.-Owing to the strike by the miners the price of Coke has been further advanced, and we now quote at \$3.50 @ \$4 ? ton for immediate delivery, free on cars at ovens.

the "new region" for some days, and there has been no perceptible change in the general position of the market, we are led to the conclusion that the new territory is not likely to amount to anything. The opening up of additional producing territory, in the up of additional producing territory, in the present condition of affairs, would be a calamity to the producing interest, as the situation is bad enough already, the production largely exceeding the consumption

CHATTANOOGA.

Office of The Iron Age, Market and 8th Sts., I CHATTANOGGA, Feb. 9, 1880, j Heavy business in all lines holds up, if it does not increase. There is still a steady advance in all lines of material required for industrial enterprises, especially for Iron products. The weather for the week has been cool and bright, closing warm. The streams are in better boating stage than at last report, which materially assists heavy trade. The Cincinnati road will probably begin doing through business this week, and this will greatly facilitate the handling of Pig Iron and reinforce the present supply of

Pig Iron.-Business has been active durng the week and all grades have advanced. The demand is almost exclusively for consumption. No. I Foundry sells readily at \$40 for best brands, in large lots. We note sales of 400 tons Gray Forge at \$37, 200 tons ditto at \$36.40, cash; 1000 tons ditto, but different brand, \$35, 60 days. We make no alteration in last week's figures, but except for spot, cash, the are a shade below the market. We quote: Coke and Charcoal No. 1 Foundry, \$38 @ \$40; Gray Forge, \$35 @ \$37; White and Mottled, \$28 @ \$30; Car Wheel Metal. \$42.50 @ \$50.

Muck Bar, &c .- No Muck Bar or Old Muck Bar, &c.—No Muck Bar or Old Rails in market. Wrought Scrap has been bought up very closely, and now rates too high to justify its use by the mills. We quote Wrought Scrap at \$28 (@ \$35; inferior do., \$17 (@ \$24; Cast Scrap, \$20 (@ \$25; inferior do., \$15 (@ \$20.) We quote Old Car Wheels at \$30 (@ \$35, according to make. The Wrought Scrap market is very firm, although the mills are holding off on it and supplying its place

ton, \$2 @ \$2.75 per ton; Red Fossil, \$2 @ \$2.25, on cars or on wharf from flat boats.

Nails.—We continue to quote at \$5.50 ates with no supply in stock, and mills doing business only on day quotations.

Manufactured Iron .- The mills are very busy. Last week's advance is rather more than maintained. All articles are strong, and another advance will be estalished by

Coke.-There is nothing new in the Coke trade. It continues scarce and prices are firm. We quote at \$3 for Furnace and 10¢ @ 12¢ P bushel. It continues scarce and prices are

Steel and Iron Rails-Are nominal at \$65 @ \$70 for Iron and \$80 for Steel.

BOSTON.

FFBRUARY 7 .- The market continues only moderately active, but the metal is scarce, and as the large deliveries on old orders occupy a great part of the attentio 1 of producers, stocks on the market are not increasing Steel .- There is no abatement in the de- to any great extent. But large consumer mand for all kinds of merchant Steel, which has been unprecedentedly heavy for several and those whose position is less satisfactory steadier feeling, and although there is nothing like activity or urgency in the demand, prices are fairly maintained, and buyers would have difficulty in obtaining important concessions from first hands. Sales in some instances have been made at lower rates than generally quoted, but there appears to be very little Iron on the market, so that sales of an occasional lot cannot be considered a fair criterion of values. There is a feeling in many quarters that the present inaction will considered a fair criterion of values. There is no abatement in the future of the market, and ask \$43 @ \$44, according to delivery. It is probable, however, that a cash offer would not be considered a fair criterion of values. There is no abatement in the future of the market, and ask \$43 @ \$44, according to delivery. It is not also serve that a cash offer would not be considered a fair criterion of values. There is no abatement in the future of the market, and ask \$43 @ \$44, according to delivery. It is not also serve that a cash offer would not be considered a fair criterion of values. There is no abatement in the future of the market, and ask \$43 @ \$44, according to delivery. It is not also serve that a cash offer would not be considered a fair criterion since the date of our day's rates. There is a feeling in many quarters that the present inaction will continue for some time past, and prices are reported firm at full card rates. It is very evident that the chapt set of a single transaction since the date of our day's rates. There is a feeling in many quarters that the present inaction will continue for some time for the week has been unprecedentedly heavy for several months past, and prices are reported firm at full card rates. It is very evident that the chapt set of a full card rates. It is very evident that the chapt set of a full card rates. It is very evident that the chapt set of a full card rates. It is very evident that the chapt set of a full card rates. It is ver

100 %. We quote American Pig Iron at the shipping port at \$40 for No. 1 X, \$33 for No. 2 X, and \$37.50 @ \$38 for Gray Forge. Scotch Pig is moderately active and un-changed, so far as spot lots are concerned. though an easier feeling is reported abroad. We quote Eglinton at \$35, Gartsherrie and Langloan at \$36 and Coltness at \$37. lish Pig is a little better appreciated than formerly, and we quote Middlesborough at \$31 @ \$32. The receipts of the week have been 1000 tons per steamer from West Hartlepool. Old Rails have sold at \$45 for American. Manufactured Iron continues American. Manufactured Iron continues quick and strong, and Boston dealers have advanced the price of Refined Bar to 334ϕ @ 4ϕ , in sympathy with the rise at the West. Nails are quick and strong at the quotation of \$5.25 for rod. to 6od. as last reported. Sheet Iron is in moderate demand from the Boston stores at $4\frac{1}{2}$ ¢ @ $6\frac{1}{2}$ ¢ for Common, 7¢ @ 8¢ for Refined, 14¢ @ 17¢ for Russia. and 11½ ϕ @ 16 ϕ for Galvanized. Copper is quiet and easier, and holders are willing to sell at 24½ ϕ , while buyers offer but 24 ϕ . Manufactures are higher, and we quote Copper Sheathing at 32¢; Braziers Bolts, 34¢; Buttons, 37¢; American Yellow Metal Sheathing, 17¢ @ 18¢; Yellow Metal Bolts, 20¢; and English Yellow Metal Sheathing at 14¢, in bond. Antimony con-Sheathing at 1.4¢, in bond. Antimony contenently, the supply in this market has been very much reduced and prices have gone up 2¢@ 3¢ ½ bushel. Nearly all the river miners have gone to work at 3½¢ ½ bushel. There have been no shipments made by river for several weeks now, the result of which has been to steady up the down-river markets, where prices are lower, relatively, than here.

Petroleum.—A flurry was created a few days ago by the report of a new well, near Reynoldsville, in new territory, which, for a time, threatened to demoralize the market; but as very little has been heard from the "new region" for some days, and there are firm and unchanged, quoting Bright Charcoal I. C. at \$10 @ \$11, and Bright Coke I. C. at \$9 @ \$10. Charcoal Roofing Plate at \$9.50 @ \$11.50 for I. C. 14x20, and \$8.75 @ \$9.50 for Coke ditto.—Commercial Bulle-

LOUISVILLE.

Messrs. GEO. H. HULL & Co., under date of February 6, write us as follows: The market is very active, with a strong upward tendency. We quote for cash as upward tendency.

FOUNDRY TRONS. No. 1 Hanging Rock, Charcoal \$43.00 @ 44.00 No. 2 41.00 (6 42.00 No. 1 Southern, Charcoal 41.00 (6 42.00 No. 2 40.00 (6 41.00 (6 Hanging Rock, Stonecoal and Hanging Rock, Stonecoal and 42.00 @ 43.00 MILL IRONS MILL IRONS.

No. 1 Charcoal, Cold-short and Neut'l. 39.00 & 40.00

No. 1 Stonecoal and Coke, Cold-short and Neutral. 37.00 & 40.00

No. 2 Stonecoal and Coke, Cold-short and Neutral. 37.00 & 38.00

No. 1 Missouri and Indiana Red-short. 40.00 & 47.00

White and Mottled, Cold-short and Neutral. 35.00 & 36.00

CAR WHEEL AND MALLEABLE IRONS.

merchants, Nos. 113 and 115 West Main street, report to us as follows, under date of February 7: The first week of February has been characterized by a movement of Manufactured Iron, Steel, Nails and Heavy Hardware generally, exceeding, perhaps, the record of any previous week in even this phenomenal season. Nails have been in unusually heavy demand, stimulated, doubtless, to some extent by general rumors of further impending advances. Makers have things pretty much their own way in the matter of price, there being no visible accumulation of stocks, and the mills making no efforts to se cure orders, either for present or future de holding off on it and supplying its place with their own Muck Bar whenever possible. the importer. Unless markets abroad advance materially, prices of domestic Iron sales we quote at \$45 (@ \$47). It is expected will have to be modified so as to meet competition, and the only way to do this appears to be in lower rates for Pig metal. At present buyers appear to be able to supply their requirements at 3.8\$\varphi\$, and although the mills are holding off on it and supplying its place with their own Muck Bar whenever possible.

Nails.—The regular monthly meeting of the Western Nail Association takes place to morrow, and that there will be an advance in the card is a foregone conclusion, but just the present because of the largest consumers will be supposed to indicate that business at present high prices is not sufficiently remunerative, but must doubtless be accounted for by their inability to protect themselves and the supply is fully equal to the demand.

The unwillingness of both the Iron and Nail men to make sales ahead can hard-with their own Muck Bar whenever possible.

Ores.—The Ore market continues steady. There is much activity in opening new books, and the supply is fully equal to the demand.

The unwillingness of both the Iron and Nail men to make sales ahead can hard-with their own Muck Bar whenever possible.

Ores.—The Ore market is very nrm, atthough the mills are holding off on it and supplying its place that business at the supposed to indicate that business at th much they ought to charge in the face of a real or supposed famine, and current transactions are thus kept down to a minimum Business in many miscellaneous lines is much impeded by scarcity of stock. The horseshoer cannot get shoes, and the country plow maker is waiting almost hopelessly for his slab steel and shapes, with the season slipping by. There will be no difficulty, of course, in maintaining prices as long as such the first of March or before. We quote: Bars, the first of March or before. We quote: Bars, \$3.75; Railroad Spikes, \$4.50; Track Bolts, \$5.25; Trestle Bolts, \$6. All small articles Coal.—We quote run of mine \$1.75 @ \$2 and in fair supply. Lump 10¢. @ 12¢ \$? bushel, delivered.

CINCINNATI.

Messrs. E. L. Harper & Co., under date Feb. q, write as follows: The market of Feb. 9, write as follows: The market has been fairly active, prices being generally steady and about on a range with those of last week. The unfortunate tinkering with the tariff by Congress is somewhat reducing the movement, but we anticipate a brisk trade as soon as they decide to leave the

matter alone.
HOT-BLAST FOUNDRY. 4 mos.
Hanging Rock C. C., No. 1
Southern C. C
No. 2 41.50 @ 42.50
Soft Stonecoal 39 00 % 41.00
Open Silver Gray 40.00 @
FORGE IRONS. 4 IIIOS.
$ \begin{array}{llllllllllllllllllllllllllllllllllll$
CAR WHEEL AND MALLEABLE. 4 INOS.
Hanging Rock. 55.00 @ 60.00 Southern. 53.00 @ 57.00

RICHMOND.

Mr. ASA SNYDER, Iron Merchant and Furnace Agent, writes as follows under date of February 9: The market for Old Rails has declined about \$2 \$\tilde{P}\$ ton and Wrought Scrap has advanced \$2 \$\tilde{P}\$ ton. Otherwise quota-tions are the same as last week. The difference between sellers and buyers is widening, and indications are favorable to the latter.

Scotch Pig Iron	35.00 @ 40.00
American Scotch Pig Iron	42.00 @ 45.00
American No. 1	39.00 @ 43.00
" No. 2	38.00 @ 41.00
No. 3	37.00 @ 39.00
Mottled and White	35.00 @ 37.00
Cold-blast Charcoal	@
Warm-blast Charcoal	43.00 @ 46.00
Old Rails	41.00 @ 42.00
Wrought Scrap No. 1	34.00 @ 36 00
Cast Scrap Machinery	30.00 (32.00
Richmond Refined Bar Iron, Stand'd.	C.04 @
Horse Shoes, Tredegar	@ 5.00
Mule "	@. 6.90
Old Dominion Nails, (standard size) according to size of lots.	5.15 @ 5.25
	m a 44

Freights to New York, \$2.00 for 2240 Ds. by sail

BALTIMORE.

W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, Baltimore, reports us the following under date of Feb. Trade continues ruling with unabated activity. Prices remain firm and unchanged

at unattered have .
Ref. Bar Iron, z to 6 by 1/4 to z 10 10 3 8-10 @ 47
to a, Round
and Square P b 3 8-10 @ 40
Hoop Iron, 11/4 wide and upward # 10 41/4 @ 41/4
Band Iron, from 11/4 to 4 in, wide. 41/4 @ 41/4
Horse-shoe Iron 474 9 4727
Norway Nail Rods
Machinery Steel
Homogeneous Steel Flate 073 46 9 F
Common Horse Nalls 10 (6) 14 V
Perkins' Horse shoes, \$\partial keg of 100 lbs\$
" Mule shoes

R. C. HOFFMAN & Co., Iron and Commis sion Merchants, report the Pig Iron mar ket as follows under date of Feb. 9: The demand for Iron continues active and prices firm at about the following quotations:

Baltimore Charcoal Wheel Iron		
Virginia "	58.00 @	60,00
Anthracite No. z		42,00
16 No. 2		
44 No. 3	39.00 @	40.00
" Mottled and White		
Charcoal C. B. Blooms		
" Billets		
Refined Blooms	80,00 @	85.00

ST. LOUIS.

Messrs. CARD & HOFFER, Pig Iron and Iron Ore Merchants, 417 Pine street, write as follows under date of Feb. 7: There is nothing new to report in the condition of the Pig Iron market. Considerable Iron is selling and prices are well maintained. continue quotations of last week: HOT BLAST CHARCOAL,

Missouri	\$47.00 @ 49.00
Southern	40.00 @ 43.00
Hanging Rock.	43.00 @ 46.00
COKE AND COAL	
Missouri	None offering
Southern	40.00 @ 42.00
Mill Irons, \$40 @ \$45 and none Me	40.00 @ 42.03 ring.
CAR WHEEL IRONS.	
Missouri	50.00 @ 55.00
Southern	52.00 @ 53.00
Ohio	55.00 @ 60.00
IBON ORB.	
Ore for fix	12.00 @ 15.00
For furnace	8.00 @ 10.00

NEW ORLEANS.

Messrs. Minnigerode & Berl, dealers in Messrs, Minnigerous & Berl, dealers in Railway Supplies, 61 St. Charles street, write as follows under date of Feb. 7: The market has been more quiet during the past week, but with prices firmer on all grades of Finished Iron. Importations for the week have been light. Scotch Pig shows a considerable weakening. Old Rails are quiet. We report a sale of 1600 tons Double Heads, to arrive at \$45.50, f. o. b. here. Old to arrive, at \$45.50, f. o. b. here. Old Car Wheels are very scarce and higher. Wrought Scrap is in good demand, with

Our English Letter.

Beview of the British Iron, Steel, Metal

(From our Regular Correspondent.)

LONDON, ENG., Jan. 26, 1880. THE BUSINESS SITUATION

is still one of deep interest to every commercial man, and there are yet so many ele ments of uncertainty and possible change, that few feel that we are fairly and fully on our feet. Our newspapers discuss the ques-tion—which few of them seem fully to comprehend or appreciate—with much vigor and labor, the idea evidently being that, if the iron trade can once be got nicely affoat. other great industries of the country will follow suit almost as a matter of course. At is not to be denied that there is a great deal of shrewdness and force in this opinion. The iron trade and its collateral branches are unmistakably among our manufacturing are unmistagably among our manufacturing mainstays, and their prosperity or adversity speedily exerts good or bad influence in al-most all directions. This is very plainly seen at the present time. No sooner was the revival of the metallurgical departments spoken of as an accomplished, or an approximately realized, fact, than we began to hear of a variety of progressive changes in cotton, coal, &c., until at the present mo-

ing to palm off upon our credulity a spurious activity, which in reality is nothing better than a passing flash in the pan. These pes-simists are mostly anonymous, and as they don't show their hands, one cannot very well prejudge their game or the cards they hold. Their views may be wholesome and their intentions good, but I doubt whether their information is sound and reliable. Much the same remark may be applied to those whose contentions are so eminently ounced in the opposite direction. They will have it that we are on the eve of such a tremendous activity that all previous spurts will count as naught, and that both the de-mand and prices will reach a level never before even dreamed of. They speak of "enormous American orders" in vague terms and don't descend to particulars, and wildly prophesy that we are going to completely flood the United States with our manufactures directly the tariff is altered. They are quite confident that your tariff will be amended for the better within the next few months, because, "you know, the Americans will not stand it any longer!" I say no more. One cannot reason with such people. I would rather meet with, and sympathize with, the most gloomy of pessimists than the man who lets his wishes and desires run riot with his reason and common sense. The out and out free trader of this country is a person who will not hear any views but his own, and he believes that it will not be long before your people "rise up as one man" against the horrible iniquity of the tariff which protects your "self seeking" manuwhich protects your "self seeking" manufacturers. Some men, however, are content to base their calculations upon things as they are, not as they ought to be, or might be, and even from that less exalted standpoint they think they are enabled to perceive many good and promising things but a slight distance ahead. The moderate men here and in this country generally, are inclined to the belief that with even ordinary prudence there is nothing in the situation to prudence there is nothing in the situation to inspire regret, fear, or a want of confidence in the future. There may be, and are, variations in the manner of expressing this feeling, but it exists, and seems to me to be a fair embodiment of the sensible view of things. To that effect were the expressions of Sir John Brown the other day at Sheffeld, who appeared convinced that we may continue to do well and improve provided we do not seek to grasp too much. Some-thing of the kind was also felt by W. A. Baldwin (of E. P. & W. Baldwin, Stourport,) although he said he feared the American demand would not prove lasting longer than the time which would elapse prior to your productive powers equaling the necessities of your own demand. The hope he enter-tained was that the American, Indian and Australian orders would carry us on until we were blessed with an abundant har-vest at home. He conuseled moderation in prices and moderation as between masters and men. Mr. James · Kitson (of Kit son & Co., locomotive engineers and iron founders, &c., Leeds), in speaking on the subject last week, said the advances already declared were almost sufficient to make the observers inquire whether everybody in the iron trade had not gone mad? We had a stock of 1,000,000 tons of pig iron to meet the demand of America and the world genreally, and he hoped that we shoud be able to get rid of it. He was glad to say that the German demand was again springing up, and the probabilities were that we should have an even increased inquiry from that quarter in the spring, netwithstanding the heavy duty. Then, again, on the Clyde there were now 146 vessels being built, so that from that quarter alone there would be a greater consumption then for several years past. These give a few leading ideas on the subject, and they are not unduly sanguine, but to "those who know" the facts are inbut to "those who know" the facts are indicative of an excellent spring trade all round—with caution. That appears to be the only ingredient necessary to ensure the efficient and successful "cooking of the pudding." Shall we comply with the condition? I am not sure that the answer can be given off hand. In the abstract prudence and caution are excellent maxims, but when and caution are excellent maxims, but when an individual ironmaster sees all his neigh-bors putting up prices and booking orders at the increased rates, I don't feel quite sure that he is to be blamed if ha tries to go and do likewise. Theoretically the man may be wrong, but if he gets the new rates he is generally disposed to believe himself right. After such depressed times, too, there is a way. very strong and not unnatural disposition to "do the best you can" in all directions, and it is only when the mischief has been done that the effects of the general action are clearly perceptible. After the event it is so easy to be wise. Few have the courage to resist the tide of public opinion. so easy It is much easier to go with the tide than against it, and men, like sheep, are apt to act gregariously, so that if one man does wrong, or right, he rarely fails to in-fluence others. Hitherto, of late, the tide has flown in, and the only but vitally important question is whether its extreme limits have been attained. Nobody can say whether that is the case or not. The iron Nobody can say or not. The iron market has been rather weaker here since I last wrote, but I scarcely think one could find half a dozen practical men who would say that we have yet reached the acme of our budding prosperity, particularly in view of the strong markets and rising prices which are reported to us from almost all parts of the civilized world. The idea is rather that we have one of those brief reswhich always marks an advancing flood, and that presently we shall have abundant illustrations of the wave. The

ronmasters are evidently of that opinion

The

case. I have inquired from many of the steel-rail manufacturers themselves, and I regret to find that none of them confirm the report. They at all events haven't got the report. They at all events haven't got the work, and what is more, they don't know of any one who has. There are American inquiries in this market, probably for nearly 150,000 tons in the aggregate, but it yet remains to be seen whether actual business will result from them. Probably Naylor, Benzon & Co. are as well posted as anybody on the subject, yet, if I am rightly informed, they have not received or given out the "enormous orders;" Cammell's of Sheffield haven't; Steel, Tozer & Hampton haven't; the Workington Co. haven't; the Moss Bay Co. haven't, &c., &c. A few small orders, for lots of 5000 tons or so in a line, have been placed on your account in Wales, &c., but up to this date the facts are as I have given them. At the same time the rail makers are not at all anxious about further orders. They have plenty of entional work orders. They have plenty of optional work for home lines on hand, and if better things don't turn up they will run these off, whereas if they could secure the £11 or so now quoted they would hold over the home contracts until a "more convenient season."

I may say, by-the-by, that the Canadian government contract placed last year at a very low figure has been "revised," the manufacturers concerned declining to proceed in the teeth of the enormous increase in the prices of raw materials. Being unable, even then, to do better the Canadians have agreed to pay higher prices.

SCOTCH PIG IRON

has been weaker since the date of my last has been weaker since the date of my last letter, not only as regards the price of warrants, but also in respect of almost, or quite, all brands of makers' iron. It is contended that the partial relapse has been caused to a great extent by the difficulty which has been experienced in obtaining freights for the United States, whence the large orders of the part for weak heavening in the present of the part for weak heavening in the part of the part for weak heavening in the part of the part the past few weeks have principally emanated. This is no doubt one good reason, but I think that another may be found in the I think that another may be found in the circumstance that speculation is on the wane, the flagging spirits of those who have meddled with that which they don't understand requiring to be kept up by a stimulus which is not now forthcoming. The heavy stocks, too, and the constantly increasing production have their due effect, one immediate result being the drop officially made known by the Messrs. Baird in their Gartsherrie and other iron. The number of Scotch furnaces now blowing is 108, an increase of 7 naces now blowing is 108, an increase of 7 on the week, of 19 over the corresponding date of last year. The stock in Messrs. Connall's stores is 431,284 tons (besides the tonnage in makers' own yards), against 205,006 tons a year ago. Shipments to date show an increase of 10,623 tons. Ballast pig is still 55/ \$\frac{1}{2}\$ ton, delivered alongside ship in the Forth or Clyde. The imports from Middlesboro to date this year have in-

creased 9287 tons.
Writing from Glasgow on Jan. 23, James
Watson & Co. said: "During the past
week the fluctuations in the warrant market have been rapid and severe, with a large peculative business done. On Monday usiness was transacted between 69/10½ business was transacted between 69/10½, 69/9, 71/, 70/7½, 71/, 70/7½, 71/, with a relapse at the close to 70/3 % ton. On Tuesday it opened quietly at 70/6, receded to 70/3, then steadily advanced with some excitement to 72/, cash. On Wednesday the market was very strong with a large business done between 72/3, 72/7½, 72/, 72/6 and closing at 72/3 % ton. Yesterday there was a pause in the demand and the price quickly receded from 72/3 % 71/, cash, closing at 71/3 % ton. To-day a moderate business was done, and on an intimation of a reduction in price of Eglinton and Gartsherrie the market became flat, with transsherrie the market became flat, with transactions from 71/3 @ 68/9, cash, closing sellers at 69/3, buyers offering 69/1½ % ton. The shipments last week were 12,288 tons, as compared with 6291 tons for the corres-

ponding wee	k of	1879."	We	quoto:	
				No. 1.	
G. M. B., at Gl	asgo	w		. 79/	
Gartsherrie,	44	*******		. 84/	
Coltness,	5.6.	*******	****	. 86/6	
Summerlee,	6.6			. 83/6	
Langloan,	4.6	*******		. 85/	
Carnbroe,	64.	*******		. 85/	
Calder, at Port					
Glengarnock, a	t Ar				
Eglinton,		**		. 79/6	
Dalmellington,		14		. 79/6	
Shotts at Leitl	1			. 83/6	
	776	CLEVEL	AND		

a very hopeful state of affairs is current, and it is clear that the majority of the iron works are well engaged. Some of the orders are believed not to have yielded any great profit so far, but those placed within the past three months will, no doubt, yield some-thing like 9/6 to 10/a ton on pig iron and £1 on finished iron. Last week a number of additional contracts for pig were entered into at a trifle below the quoted market rates, but there has been no notable going back; indeed, in all hands there is a very strong feeling, and much confidence as to the immediate future. Owing to the enormous demand for hematite iron, and the ex essively high prices realized, the number of leveland furnaces running on that class of material is being increased, most of the ore used being imported from Spain. Last week alone over 16,000 tons of such ores arrived at the Tees ports, a large proportion of the whole being for Bolckow, Vaughan & Co., Limited. This immense usage of foreign ematites would seem to show that the adoption of the Thomas-Gilchrist process is in some danger of being retarded by the ex-treme suddenness and urgency of the Bes-semer trade revival in this country, but I am not sure that the inference so arrived at is reliable, for I learn that the new and vastly improved machinery and plant which in cotton, coal, &c., until at the present moment there would appear to be an almost equal improvement all round. It is, however, with iron and its numerous allies that reads as can be seen or ascertained in the called upon to mention the fact, in order to show that whenever the iron market here is strong this country is likely to be commercially prosperous, and the reverse in the books, rising prices, and nexcess of who deny the possession of such strength, and deep the weak have been called upon to mention the fact, in order to show that whenever the iron market here is strong this country is likely to be commercially prosperous, and the reverse in the books, rising prices, and nexcess of demand over the supply. Writing to the other day, Mr. John Dixon, C. E., which the said had been received in England of our clever American contents of the many spoke of conclusion of the possession of our clever American contents of the many spoke of conclusion of the possession of our clever American contents of the many spoke of conclusions, who, for each of the continued use of Spanish ores a market of comparative economy. It is being made by Davy Brothers, of Sheffield, will be ready shortly, and will be fixed and in operation by the beginning of April, or even earlier. With the new appliances believes the time and wrought Iron increases daily in a striking many to deport on dephosphorization in downright of course, which has an amount in the Gerendand for Fig. and Expyt is again a buyer of some weight, and Expyt is gain a buyer of some weight, and Expyt is gain a buyer of some weight, and Expyt is gain a buyer of some weight. Eastern Europe does not seem to softly down so completely as might have been expected, but Canada as a market is still improving.

HAMBURG. IRABURG.

HAM being made by Davy Brothers, of Sheffield

of that part of Spain. For dephosphoriza-tion the revival of trade may, perhaps, be, deemed rather inopportune, because it renders rigid economy unnecessary, in the absence of keen competition and the balance of power on the side of the producers. For the owners of the Bilbao adventures, the fortunes of which have been at a sorely low fortunes of which have been at a sorely low obs for some years past, the upward move-ment comes as a perfect God-send, especi-ally when it had come to be regarded as a fact beyond the reach of dispute that de-phosphorization had sounded the death knell of Spain having hitherto proved dead losses. Certain most estimable gentlemen in the Sheffield district know this to their sorrow, Sheffield district know this to their sorrow, and it is with real gladness that I see the changed state of affairs, so far as one gentleman is concerned in particular. It is recorded that last week over 150,000 tons of ore were shipped from Bilbao, so that the mines there may be looked upon as having at last proved their value. Other gentlemental like to be in a position to say the

All net cash, delivered f. o. b. at makers wharves in the Tees.

West Coast and other hematites range from £6 to £7 for mixed lots of Bessemer sorts Producers are very firm.

FROM SHEFFIELD

I have very good accounts of the progress which the revival of trade is making there and thereabouts. The heavy industries still experience most of the benefit which has hitherto accrued, but many of the minor trades are at length experiencing some of the effects of the spurt, and most of the rne enects of the spurt, and most of the principal houses engaged therein are finding their workmen more employment. Of the Bessemer houses I need say nothing here, save that they are well engaged, without exception. The iron works proper are in the same condition, much of the demand being on plates wire and dock bears. being on plates, wire and deck beams, &c., for shipbuilding purposes. John Brown's and Charles Cammell & Co.'s are both very fairly off for orders of all kinds, their tire mills being busier than for some time past, and their armor and boiler-plate departments in steady operation. At Jessop's American orders for steel sheets, saw plates, ax molds, &c., are plentiful. Thomas Firth & Sons are turning out larger quantities of clock-spring sheets, wire, plow plates, &c. Sanderson's are fairly agoing. plates, &c. Sanderson's are fairly agcing. Francis Hobson's and Wardlow's are much better occupied, largely on account of United States buyers. Vickers & Son's are doing well with their Siemens' steel (of which they are the largest producers in England), partly on general orders, but chiefly on their Forth-Bridge contract. Geo. Fisher & Co., Moses Eadons, Sybry Searls, &c., are all better employed. The chief cutlery firms report excellent American commissions, especially Rodgers & Sons, John Wilson, Geo. Wostenholm & Sons, Brookes & Crookes, and a few of the factors, such as Ward's, Field's, Hill's and Brookes & Crookes, and a few of the factors, such as Ward's, Field's, Hill's and Wiebusch's. In the file trade Turton's, Peace's, Fisher's, Spear & Jackson's, Cammell's, &c., are growing busier. At Samuel Osborn's the whole of the men are fully employed. The saw manufacturers are not so well occupied as they might be. Those of the local houses who are exhibiting at Sydney are well satisfied with the outcome of their enterprise, even thus early. Some of them, to my knowledge, have already secured capital orders from New South Wales and South Australia.

are for the most part in a satisfactory state. At the iron works preparations are being made in almost all directions for blowing in made in almost all directions for blowing in the blast furnaces which lie idle all over the district, so that by the end of this quarter it is highly probable that the number of operative furnaces in this category will reach 60, as against the 34 or so on the active roll at the beginning of the year. It is even possible that still more of the total of 150 will be again at work by the minus progress. provided the revival maintains its progress. As a plg iron producing center, ho South Staffordshire has lost a great deal of ground of late years, having been surpassed both in point of quantity and quality—not to mention energy—by its formidable competitors in Lincolnshire, Northamptonshire and the North of England. It will always be the last, in future, to benefit by the demand for crude irons and the first to lose ground, although, on the other hand, its nills will probably rank foremost in respect of their means for producing finished iron. For this reason we find that just now the finished iron works of the locality are very well engaged indeed, while so large a pro-portion of the furnace power still remains inoperative. For hoops and sheets, the former on American account, the demand is excellent, and there is a well-sustained call for galvanized sheets, fencing wire, &c. the hardware departments business, on the whole, is satisfactorily strong, although there is more uncertainty than is desirable or healthy as to prices, owing to the repeated rises in iron and the fear that others may at any time be declared. There is a marked any time be declared. There is a marked improvement in export orders, especially for South America, the Cape, India, Australia, New Zealand and the United States. Since the termination of the Zulu war there as been much more done with South Africa

STAFFORDSHIRE AND BIRMINGHAM

trade, Nettlefolds, is supported in this movement by the Birmingham Screw Com-pany, the Manchester Steel Screw Company and Messrs. Lloyd & Harrison. The discount off iron wood screws is made 65, and off brass screws 62½ %. The Birmingham Hollow-ware Company have reduced dis-counts off tin and enameled cast-iron hollow-ware, and have advanced all goods sold by weight 1/ ?? cwt. Archibald Kewrick & Sons, West Bromwich, have put up their list rates for door and lock furniture, and have lowered the discount off fry pans by a of all the high-class ores. To certain concerns and persons the new spurt will mean all the difference between relative affluence and real poverty, the enormous sums of money invested some years ago in the North crew manufacturers and other houses. Copper, tin and all the metals proper are dearer. Saddlery and other leather goods are up to 5 to 15 %, owing to the American buyers having cleared all the best leather out of this having cleared all the best leather out of this market. Carriage axles are 5 % more money. Tin toys, grates and other fancy bright tinware are advanced 20 %. F. Braby & Sons "Sun" brand of galvanized sheets are advanced to £21 for 24 W. G.; £23 for 26 W. G.; £25 for 27 W. G., and £1. 10/extra for close cases felt lined, with £1 extra for sheets between 8 and 9 feet long, and £2 extra for sheets between 9 and 10 feet long. extra for sheets between 9 and 10 feet long. Stamped goods are 10 to 20% higher. Bilston trays and waiters are 10 % more, and japan-ned toilet, &c., 5 to 10 % dearer. Horns, ned toilet, &c., 5 to 10 % dearer. Horns, ivory, hard woods and other cutlery hafting materials are rapidly growing higher price, and more difficult to get hold of.

FOREIGN.

FRANCE.

(Moniteur des Interets Materiels.)

HRUSSELS, Jan. 25, 1880.—Iron.—Our exchange has been well attended and animated. At Liege Merchant Iron sells currently at 210 francs; at Charleron for small lots sheet Iron has been advanced from 260 @ 270 francs, after some sales at 240 @ 260. Steel Rails sell at 250 francs for small 27 kilo. Rails. This is for moderate quantities; orders for large ones would be declined. Pig Iron is firm and the whole market is steady at the previous week's prices. The government will soon come out with its adjudications of 100 comotives, which it will require, and to which allusion has been made in a former report. On the 28th inst. our government will want 10,000 tons Steel Rails, paying part in Old Rails and part cash. Old Rails have been selling at 130 francs, and 135 francs has since been offered for them. This is still cheap considering that they are bringing 150 francs in England. At Liege affinage Pig is in active request. The demand exceeds the output. White Pig sells at 25 and has a rising tendency. Coke furnaces are very busy, and their number cannot fail to increase. Coke sells at 25 @ 27 francs per ton. Merchant Iron, first-class, sells at 210; the difference between classes is 15 francs up to 22 francs, in some isolated cases, under pressure of demand. At Charlerot the demand is of such a pressing nature that, for near delivery, almost any price may be had. They quote Merchant Iron 70. 1. 220 francs, large plates 250, and Sheet Iron 270 and upward. Coal.—The market has been feverish and irregular; there is still a lack of conveyance and great inconvenience arises therefrom, while the demand remains equally brisk for domestic and industrial purposes. Good quality brings 23 @ 25, and mixed and low 10 @ 10.50 per ton. (Revue Universelle.)

GERMANY.

PATENT DECISION.

Hardware dealers will please take notice of the decree of Judge Lowell, of the United States Circuit Court, in the case of Millers Falls Company against Quimby S. Backus, for infringement of Bit Brace Patents, which decree was in favor of the Milents, which decree was in Tavor of the Milers Falls Company. The full text of the opinion may be found on page II of The Iron Age, of date December 18, 1879.

We have now obtained three separate decrees against three different manufacturers,

and shall continue to prosecute all infringers.
When the manufacturers are able to pay the damages we shall in no case trouble dealers, but when manufacturers are unable to pay we must ask the dealers to remunerate us, we must ask the dealers to remunerate us, else responsible dealers might combine with irresponsible makers to render worthless the most valuable patents. Any reasonable man can see the point, and we have before given all dealers sufficient notice.

MILLERS FALLS CO. 74 Chambers street, New York.

THE BUCKEYE LAWN MOWERS.







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F. HABERMAN,



294 Pearl St., New York,

Manufacturer of the

Empire, Brighton and **Favorite Oil**

Paragon Gas Stoves.

Illustrated catalogue and prices on application.

NICHOLS' SELF-ACTING ACID PUMP.



The Old Way.

Absolute Safety! Perfect Ease! Time, Labor and Ma-terial saved by using the NICHOLS ACID PUMPS, o draw all kinds of acids from arboys. Every pump war-anted. Send for new circular nd price list. Manufactured nly by

cid Pump & Siphon Co New London, Conn.



RHODE ISLAND HORSE SHOE CO.,

Horse. Mule & Snow Shoes of the Perkins Pattern.

Works at Valley Falls, R. I., and Buffalo, N. Y. Office, 31 Exchange Place, Providence, R. I. C. H. PERKINS, Gen'l Manage F. W. CARPENTER, President. B. W. COMSTOCK Secretary

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FINISHED



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DURRIE & McCARTY, Agents, No. 97 Chambers St., New York

The Oldest Shot Tower in America.



THOMAS W. SPARKS,

SPARKS' American Chilled Shot. Rivaling the English and all Others.

TANDARD DROP & BUCK SHOT AND BAR LEAD. 121 Walnut Street, Philadelphia.

THE

Sprague Novelty Works 15, 17 & 19 North Water Street,

ROCHESTER, N. Y., Manufacturers of

Hardware Specialties, SPRACUE'S

"Perfection," "Combination" and other Razor Strops. Refer to The Iron Age first issue of each month.

A. F. PIKE.

East Haverhill, - New Hampshire,
Manufacturer and Wholesale Dealer in Scythe, Axe, Knife and Hacker



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"DRAW CUT"
BUTCHERS' MACHINES.
Choppers, Hand and Power
Stuffers,
Lard Presses.
Warranted thoroughly made
and the BEST DE USE.



Rear of 407 Cherry St., Philadelphia, Pa. Send for Price List.

Established in 1839.

Formerly L. & A. G. Com



Patent Screw Wrenches

JUNE 26, 1866, MARCH 23, 1869, REISSUED 1870.

FEBRUARY 23, 1864, REISSUED JUNE I, 1869, IMPROVED AUG. I, 1877.

The back thrust when in use borne by the SHANK instead of the Hand'e-None genuine unless stamped "L. COES & CO."

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Warehouse, 97 Chambers St., & 81 Reade St., N. Y. DURRIE & McCARTY, Sole Agents.



MEAT CUTTER

The only Cutter upon the Market which is required the entire year for family pur-

READ THE POINTS.

This is the only Cutter ever put on this market that entirely fills the requirements of a Family Meat Cutter, Mincer and Chopper. Being very compact, one pourd of meat can be cut as readily as a larger quantity, (which is not the case with other Cutters), while it will cut sausage

meat rapidly and well. It is especially adapted for cutting cooked meats, such as are intended for Breakfast Hash or Mince Meat, also for Suet, doing the work in a few moments that would require hours with a mincing knife, and which cannot be properly done with the usual meat cutters gotten up especially for sausage meat. For these purposes it is used without the spout; but for sausage meat a good heavy white metal spout is affixed. (See cut.) They come complete with clamp so they can be clamped on a table or taken off at pleasure. The outside is nicely japanned and edges painted. The inside covered with "White French Enamel," so they can be easily and nicely cleaned as well as making them attractive machines. There is no other Meat Cutter upon the market that will take the place of Meat Choppers sold for this express purpose but cost three times the money. A trial solicited.

No. 00 Improved Pennsylvania Meat Cutter, Price, per doz., \$28. Discount 40 & 10 %.

LLOYD, SUPPLEE & WALTON, Philadelphia.

DURRIE & McCARTY, New York City.

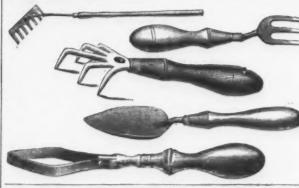
H. S. MANNING & CO.,





ALSO LANE'S PORTABLE COFFEE ROASTER Will roast 30 to 40 lbs. at once, and can be used as a stove at other times. Send for descriptive list to Manufacturers.

LANE BROS., Millbrook, N. Y. Our agents, Graham & Haines, 113 Chambers St., New York, carry a full line of our goods, and will be pleased to serve you at factory prices



Garden, Floral & Farm TOOLS CHEAP. OF

Enterprise Mfg. Co., Geneva, Ohio.



E. HORTON & SON CO.,

Windsor Locks, Conn. m this date a discount of 25 per cent will be made from the price

THE HORTON LATHE CHUCK, and to per cent from the **Sweetland Improved Chuck.**February 1, 1860. Send for Price List.

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MONTPELIER, VT., MANUFACTURERS OF

DOUBLE-ACTING SPRING BUTTS,

SABIN'S LEVER DOOR SPRINGS, For heavy doors. BOSS AND CROWN SPRINGS, For light doors,

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quoted 200 @ 205; they are, of course, much lower for export, Copper.—This metal has remained firm, and with an improving tendency in response to the English rise. Berlin quotes 7.4 @ 76 marks the so kilos. We quote here 9.8 for Drontheim, and 80 @ 82 Refined Ingots. Tin.—There is much strength and greater steadiness. Berlin quotes the various kinds 97.50 @ 99. We are nominal here at 10.6 @ 110 marks. Lead has continued to look up. The quotation at Berlin is 18.75 @ 19. We quote in this market, 19.50 @ 21.20. Spetter.—There has been no weakness anywhere, and we repeat previous quotations, which are 21.25 @ 22 at Berlin, 20.15 at Breslau, and 21 here, on the spot, and to arrive, 21. We quote Sheet Zinc, here, 26.50 @ 27.

(Koch & Vlierboom.)

ROTTERDAM, Jan. 22, 1870.— Tin.—During the week under review the metal has been in good request both for consumption and speculation. Onsiderable dealings have transpired in Banca Tin as well as Billiton at 56 @ 58 guilders the 50 kilos., and at the close there are still buyers at the outside figure. Lots to be delivered from the impending sale have been paid ¼ guilder more than spot, parcels.

RUSSIA.

(Journal de St. Petersbourg.)

(Journal de St. Petersbourg.)

St. Petersburg., Jan. 21, 1880.—Sitel Rails.—The Railroad Department of the Ministry of Public Conveyances has addressed a circular to all the owners of iron works telling them that the government is desirous of introducing the manufacture of Steel Rails into the Empire. on a large scale. The proprietors of works have answered that they lack a sufficiency of raw material for the manufacture of such rails. The government, in reply to this complaint, have appeinted a general meeting of owners of works for next month, in order to consult with them whether the necessary amount and quality of Iron Ore may be procured in Russia, or whether importation of the quantities required whole or in part shall have to be resorted to.

SPAIN. (Epoca.)

(Epoca.)

Bribao, Jan. 20, 1880.—Iron Ore.—About three months since the sellers of Iron Ore were but too glad to be able to make contracts for future delivery at 7,50 pesets or france per ton, the demand being slack, mining sluggish and, the dephosphorization prospect in English added thereto, the prospect for 1880 was anything but a flattering one. Since then the house of Bolckow, Vaughan & Co. alone has taken in a lump 190,000 tone, and orders coming from all quarters, Iron Ore has gradually risen to 17,20 pesets per ton. At the same time it transpires that two-thirds of the Mokta production of Ores in Germany have been contracted for and that 300,000 tons have been taken for American works. The orders now arrive from France, Germany, Belgium and England. These orders call for altogether 200,000 tons for immediate delivery. We do not think that after all present engagements shall have been attended to, there will remain available for the whole of 1880 more than 200,000 tons. Hence the great firmness. French works are now making overtures to mine owners here for delivery in all 1881 and 1882.

(Schmidt, Kustermann & Co.)

(Schmidt, Kustermann & Co.)

PENANO, Dec. 26, 2872.—Tin.—There have been taken for Europe and America, since our report of December 15, some 2800 piculs at \$26.65 @ \$27.25 per picul, and for India and China 2570 piculs at \$26.60 @ \$27 @ \$27 7%. The market closes weak at \$26.60 with a stock in Bazaar of 3000 piculs. Exchange.—The firmer tendency observable at the time of departure of the last main has been sustained a few days only. Weaker quotations were telegraphed from India, Silver declining ½ 2, and rates in consequence gave way here to 3/10 for 4 months bank bills, which is the closing figure to-day.

(Rantenberg, Schmidt & Co.)

Siroapore, Dec. 24, 1879.—Tin.—Since we last reported, 19th iust, the metal has been quiet with sales to a moderate extent at \$27 @ \$27,50 per picul, closing at the outside figure. Exchange has declined from 3/10/4 @ 3.10/4 for private bills, and from 3/10/4 @ 2/10/4 for bank bills, the latter 4 months sight.

Protection for Steel Rails.

The discussion on the advisability of reducing the duty on steel rails from the presducing the duty on steel rails from the present figure—\$28 per ton—to \$10 per ton, has brought into strong light many facts concerning the Bessemer industry in this country. While those who clamor for a reduction of the protection to the American works, and who sek to excite the sympathy of the agricultural classes by stating that a lower duty would insure lower rates of transportation, have given to the public transportation, have given to the public specified accounts of the actual amount of specified accounts of the actual amount of saving which they claim would be effected, Mr. William P. Shinn, of the Vulcan Steel Company, St. Louis, in a valuable memorandum prepared in behalf of his company, has taken up this point, and the result which he has arrived at is certainly well calculated to show how misleading is the argument advanced by the small number of roads appealing for a reduction. Mr. Shinn has found that the tatal operating expenses of the Pittsburgh, Fort Wayne and Chicago Railway Company of the specific of the same of the same of the pittsburgh, Fort wayne and Chicago Railway Company of the same of the same of the pittsburgh, Fort wayne and Chicago Railway Company of the same of the pittsburgh of th Wayne and Chicago Railway Compan for the year 1878 amounted to \$4,138, 173.01. while the expense for iron 173.01, while the expense for iron and steel rails included therein amounted to \$124.653.53, or a little over 3 per cent of the total operating expenses. On the Phila-delphia and Reading Railroad the total operating expenses were \$7,786,282.79, and the expense for rails was \$176,629.85, or about 2 3-10 per cent. From these two cases it is evident that the cost of rails represents from 21/2 to 3 per cent. of the cost of operating a well-managed railroad with large tonna If it were possible by a reduction of the duty to \$10 to reduce the price of rails from \$80, the present asking price of American mills, to, say, \$66.50, which would be the mills, to, say, \$66.50, which would be the present price of English rails at the seapresent price of English rails at the sea-board with \$10 per ton duty added, it would represent a reduction in the price of \$13.50 per ton, or about 30 per cent of what the railroad companies of this country have been paying for rails during the past two years. If the cost of maintenance of rails were 3 per cent. of the total operating expenses, and a saving were effected of 30 per cent. of 3 per cent., it would amount to nine-I per cent, on the operating ex ses. Taking a rate of 35 cents per 100 nds from Chicago to New York as a basis, a reduction of nine-tenths of I per cent, due to this saving in rails would reduce that rate by 0.315 of 1 cent per 100 pounds. So insignificant is the direct ad-vantage which the railroads or their patrons would reap from the proposed reduction of the duty on steel rails.

ful rapidity, and as the works in the United States were at all times, during the last few years, fully able to meet the demands upon them, home competition brought the price of rails to low figures, which in many cases, were not remunerative. When the sudden demand, created by a revival of the rail-road interest, taxed them beyond their capacity, prices raturally rose; but as other ma-terials advanced at a much greater rate, and the rail mills had contracted ahead at lower figures, they are now far from realizing the profits which present market quotations yould lead those not initiated to believe, and steel rails of American manufacture are now being supplied to American roads at an average price which is below \$50, the quotation now given at English works for English rails. While American Bessemer steel rails have neminally advanced 100 per cent., the prices of iron rails have risen 100 per cent. in the past year; bar iron has advanced in the same time more than 100 per cent.; the price of nails has increased by 150 per cent.; Connellsville coke has appreciated 200 per cent.; iron ore has advance 100 per cent.; Bessemer pig iron has advanced from \$18 to \$45, or 150 per cent.; old-iron rails, which are sold only by the railroads, have advanced from \$19 to \$45, or 137 per cent.

The latter fact is one which has an im-

ortant bearing upon the question. The ost of steel rails to an operating railroad company is not the price paid for the rails, but it is that sum less the amount received for the old rails replaced by the steel, and such is the manner of charging to their ex-pense accounts adopted by all well-regulated pense accounts adopted by all well-regulated railroad companies. Railroad companies using steel which, one year ago, cost them \$46.50 per ton, were glad to sell their old rails at \$18 per ton, the actual cost of the steel being therefore \$28.50 per ton. One of these railroad companies has recently sold its old rails at \$50 per ton, spot cash, and if it had bought steel at \$30 the cost of steel to it would be \$30 per ton, or only \$1.50 per ton in excess of the cost one year ago. It therefore follows that the claim of ago. It therefore follows that the claim of the railroad companies that the cost of steel is excessive is not well founded.

It will be of interest to examine whether the present abnormal state of a demand in excess of the supply is likely to continue or whether an early extension of manufactur-ing facilities will again create a healthy home competition which is the best guarantee of future prosperity. The following data, furnished by Mr. Alex. L. Holley, will amply prove that unless the disturbing influence of unwise tariff legislation discourages investors, the expansion of present works and the addition of new ones will soon establish an equilibrium. The works, at Bethlehem, Harrisburgh and Scranton are about to double their capacity, while the Troy, Johnstown, Edgar Thomson and Joliet companies are making a propositions to increase. panies are making preparations to increase their output from 10 to 20 per cent., and the Vulcan works have started, adding probably 100,000 tons ingots to the total for 1880, which it is estimated will reach 800,000 tons. In making 600,000 tons in 1879, the rail mills expended over eight millions of dollars mainly for railroad transportation, 40 per cent. of the price obtained for the steel rails being paid for freight on raw materials and finished product. These sums, it will be con-ecded, more than reimburse the railroads and their patrons.

and their patrons.

The young and growing open hearth steel industry is similarly affected and its extension would suffer a severe check. How actively preparations toward increasing the output are being made, may be gathered from the following array of completed and projected additions, as given by Mr. Holley: The Cambria Iron Company have lately started a pair of 15-ton Pernot furnaces, but the plant is still incomplete. When the the plant is still incomplete. When the Krupp washer, now building, is in operation the ingot capacity will be at least 40,000 tons per year. Two similar furnaces are contemplated, to be begun when these are got into full work. The Bethlehem Iron got into full work. The Bethlehem Iron Company have nearly completed a pair of 12-ton open-hearth furnaces, which, with the Krupp washer or with the Siemens direct process contemplated for preparing larger, when the first is well started. The Nashua Iron and Steel Company are about adding a second 12-ton to 15-ton open-hearth furnace. The Otis Iron and Steel Company are adding a fourth 12-ton openhearth furnace. Spang, Chalfant & Co., Pitts-burgh, have commenced building a pair of 10-ton Pernot open-hearth furnaces and a Krupp washer, also a blooming train and other trains to make and work up 25,000 to 30,000 tons of steel per year. Park, Bro. & Co. are about starting a 10-ton open hearth furnace. The Albany and Rensselaer Iron and Steel Company, the Joliet Steel Company and the North Chicago Rolling Mill ompany intend to erect open-hearth works. The open-hearth works started during the past 18 months are B. Atha & Co., Newark, N. J., one furnace; A. Kloman, Pittsburgh, one furnace; Hussey, Howe & Co., Pitts-burgh, one furnace; Shoenberger & Co., Pittsburgh, one furnace; Anderson & Co., Pittsburgh, one furnace; Otis Iron and Steel Company, Cleveland, one furnace; Mitchell Tranter & Co., Covington, Ky., one furnace; Burgess Iron and Steel Company, Portsmouth, Ohio, one furnace. I that time the St. Albans Iron and Company, Vt., have restarted their furnace and the Roane Iron Company have got their two in regular operation. In addition to two in regular operation. this the Pittsburgh Bessemer Steel Company Limited, are erecting a Bessemer about 75,000 tons ingot capacity and there ors of other Bessemer works in con

construction of their splendid boat the St. John, the longest on the river. She will be thoroughly rebuilt, in hull and engine, John Englis & Son doing the woodwork, and the Peoples' Iron Works doing the machinery. But the great sensation of the spring, among river men, will be the debut of the iron steamer Albany, recently launched at Wilmington, Del., and which is daily expected around from the builders. Harlan & Hollingsworth, to receive her machinery, which is now in readiness, from the works of Fletcher & Harrison. She is 295

feet in extreme length, or the same dimen sions as her consort, the Chauncey Vibbard, both of the day line. All the frames and plating, also the guard rails, are of iron, and it is understood that a section of steel has been incorporated, sufficient to test practically the comparative value at least as to durability of the two materials.

INDUSTRIAL ITEMS.

MASSACHUSETTS.

The Millers Falls Company have elected the following directors: President, H. L. Pratt; Secretary, L. J. Gunn; Auditor, D. P. Abercrombie, E. E. Lyman, G. A. Arms and C. C. Conant. The company have voted a 7 per cent. dividend.

Efforts are being made to induce the Union.

NEW YORK.

The Cold Spring Furnace, at Cold Spring, Putnam County, has just been transferred from Mr. G. H. Potts, New York, and Mr. John P. Brock, Philadelphia, to new purchasers, represented by Jas. C. Kent, Philipsburg, N. J., and J. Wesley Pullman, Philadelphia, as executive committee. The furnace is being entirely relief and furnace is being entirely relined, and thorough repairs are being made on machinery, with some important additions. The preliminary steps are taken for the organi-

zation of a new company, comprising as stockholders some well-known names in New York and Philadelphia.

A visit to the local iron works in New York city secured evidence on all sides that in this line of industry a degree of activity provide such as he are the providence of activity prevails such as has not been witnessed since the year of the panic. One of the largest establishments has orders that will tax their full working capacity up to June, one of the jobs on hand being engines and boilers for the new steamer building by Mr. Foulkes, at Greenpoint, for the Old Dominion Steamship Company, besides engines and boilers for several iron steamers, and miscellaneous work. Among others the Twilight is receiving a new outfit. At the Quintard Iron Works, engines are building for a new steamer for the Charleston line (to replace the boat sunk by the Lady Octavia), the hull to be built by John Englis.

The Crown Point Iron Company is now manufacturing 100 tons daily of Bessemer pig iron. All four of the blast furnaces are

pig iron. All four of the blast furnaces are in full operation.

The producing capacity of the Cohoea Tubing Works has been increased one-third by the addition of a new lap-weld furnace.

Corning & Co., of Troy, have set up a train of rolls in their mill at the iron works for the manufacture of sheet-iron plates, a branch of husiness which will give ampley. branch of business which will give employ ment to a number of additional workmen. The wages of the employees have been in

The Messrs. Burden are building an addition to their puddling forge at Troy, which will accommodate 20 more furnaces and give employment to 100 men.

PENNSYLVANIA.

The Star Lock Works, at Philadelphia, Hillebrand & Wolf, proprietors, are being considerably enlarged. New and improved machinery will be introduced, and the capacity for production largely increased. This firm commenced business in 1836, and control a large trade in trunk locks, padlocks, dead latches. &c., throughout the locks, dead latches, &c., throughout the United States. They have also a consider-able demand from Germany and most of the

British Colonies, Australia especially.

The product of the Bessemer department of the Pennsylvania Steel Works for the month of January was 9794 tons steel ingots. S623 tons finished rails. We could not learn the exact amount of steel made at the company sopen-hearth furnaces, but it will reach pany sopen-hearth furnaces, but it will reach Iron Works in this place for a term of from the company sopen term of the The rail mil

several hundred tons. Total shipments of product for January, 9478 tons. The French Creek Forge, near the falls of French Creek, Warwick township, Chester county, is turning out about 24 tons of blooms per week. The forge is a charcoal one, and the blooms find a ready sale.

The Sheridan Furnace, No. 1, was blown

out last Saturday. The proprietors, Wm. M. Kauffman & Co., are pushing repairs rapidly, and think of having it ready for last next May.

Perkins & Co.'s new Mabel Furnace,

Sharpsville, will be completed about the 1st of April. It will be the same size as the old stack, vis., 50 feet high and 13 feet bosh. The old stack has had an almost unprecedented run of good luck. It was blown in on the 10th of July on the old lining.

The Standard Oil Company is now receiving 16,000 tons of hoop iron from England, cut in suitable lengths and punched ready for riveting. The price was \$20 a ton less Works at litusville, which can thus make a upon were made an inducement for the loca-saving of 25 cents a barrel upon present tion of the furnace at Youngstown. prices, or an extra profit of \$128,000 on the o barrels that it will make.

The Hampton Furnace, near Reading, will

blown in successfully and is now making pig iron regularly and doing well. No. 1, blown in some months since, yielded recently 313 tons of pig iron of excellent quality in a week.

PITTSBURGH AND VICINITY

The name of Crown Steel Works has been adopted for Fort Pitt. The works are located at Demmler, on the Baltimore and Ohio Railroad.

All of the industrial establishments at Beaver Falls are running full. On Monday of last week four large boilers

exploded at Clark's Solar Iron Works, at Pittsburgh. One man was killed and three severely injured, one of whom has since died. The boiler, strange to say, was not damaged much. Part of the head was ripped open and bent down, making a large gap, through which the steam escaped. All the boilers were moved back about six feet by the jar. The firm estimate their loss at \$3,000. The boilers were tested but a week before and pronounced in excellent condi-tion. The verdict of the coroner's jury is to the effect that the head of the boiler was voted a 7 per cent. dividend.

Efforts are being made to induce the Union Cutlery Company, of Shelburne Falls, to remove their works to Greenfield, where a number of gentlemen have offered to build and equip a factory for them.

It is reported that the Novelty Works at Taunton, will be used for the manufacture of ship's windlasses and ship's gearing, and that the new company will begin operations on the 1st of Merch.

start their furnace about the 1st of April, and the rolling mill a short time after.

The Crawford Manufacturing Company malleable iron works are being run over-time. About 225 hands are employed.

time. About 225 hands are employed.
The Enterprise Lock Works have booked orders since January 1, 1880, for nearly 6000 dozen jail locks, a large percentage of which are to fill export orders.

A Northrop & Co., manufacturers of sheet iron roofing, siding, &c., report that their sales have nearly doubled the past year. They are now roofing the buildings of the Somerset Manufacturing Company of Bari-Somerset Manufacturing Company of Raritan, N. J., amounting to 60,000 square feet.

The great increase in the use of nut locks on the railroads is shown by the following table, giving the number of Verona nut locks

ALL LIC	0 00 0	nece .										
		July, 187										
		January										4,320,856
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Card	issued	July, 187	8		0 0	0	0 1			 0	 	10,253,587
Card	issued	January	, 187	Q.								11,901,198
Card	issued	July, 187	19				 	0		0	 	15,800,103
Card	issued	January	, x88	0.			 					18,631,778

MARYLAND.

The plate department of the rolling mill in umberland is at the present time heavily stocked with plate iron varying in thick-ness from 1-16 inch to 114 inches, and in length and breadth of any dimensions that are required in ordinary railway work. This iron is used not only in the manufacture of engine boilers and coal hoppers, but also in the construction of tenders, frog switches and plates, and gondolas used in transporting iron ore. These gondolas are made with what is known as hopper bottoms, and they are unloaded in the same way as hoppers. They have been used but a few months by the Baltimore and Ohio Railroad Control of the Baltimore and Ohio Company. The Pennsylvania Railroad Company have employed them for two or three years. The preparations for the manufacture of bridge iron are progressing rapidly.

At the Abbott Iron Works, Baltimore

there are over 600 hands now employed, when a year ago there were under 100. Twenty-one puddling furnaces and 16 heating furnaces are running, all in full blast and the rail mills will be on double turn in a week or two. The company have received large consignments of pig iron and bloom iron, as well as old rails, lately, and are now turning out a large amount of plate rails. They get their pig iron mostly from Pennsylvania and Virginia, while the old rails sylvania and virginia, while the out rails are shipped from Liverpool and Antwerp. Besides the Abbott mills, there are other iron works busy, viz.: The Cedar Point Furnace, Brooks' Furnace, the Baltimore Car Wheel Company; and on Locust Point, Coates' Rolling Mills, all of which are doing a large business. a large business

WEST VIRGINIA.

one to three years. The new company agree to run the mill on double turn for at least two hundred days in the yearcounting twenty-six working days in the month-about eight months in twelve.— Moundsville Reporter.

Messrs. Enos, Hill & Co., of Gallipolis, have recently contracted to furnish the machinery for a new propeller to be built by Messrs. Pennywilt, boat builders, of Ripley and Manchester. Messrs. Enos, Hill & Co. are manufacturers of engines and boilers, founders in iron and brass, and dealers in machinists' supplies in general.

The Himrod Furnace Company, of Youngstown, has brought suit against the Cleveland and Mahoning Valley Railroad Company to recover \$50,000, in the Common Pleas Court of Cuyahoga county, O. It is claimed that the defendants agreed to carry material for the furnace for 15 years at low rates, and than ruling prices, making a saving of that for several years past the agreement \$320,000 to the company. Of the whole amount 6000 tons goes to the Acme Barrel tiffs. The latter assert that the rates fixed

Monitor Furnace chops 5000 cords of wood

B. F. Moret's Forge, at Douglassville, is engaged night and day in the manufacture of blooms for Bailey's Pine Iron Works, and also for Alan Wood & Go., Conshohooken. The Phoenixville Furnace No. 2 has been blown in successfully and is now making pig iron regularly and doing well. No. 1, blown is successfully and doing well. No. 2, blown is successfully and doing well. No. 3, blown is successfully and doing well. No. 4, blown is successfully and doing well. No. 2, blown is successfully and doing well. No. 3, blown is successfully and doing well. No. 4, blown is successfully and doing well. No. 5, blown is successfully and doing well well. as soon as practicable. The workmen are pushing the repairs as rapidly as possible. This will be one of the largest and best furnaces in the country, and its going into blast will be a great thing for this city.

The Mahoning blast furnace, one of the oldest furnaces in the country, has been purchased by a Pittsburg firm, who have, already commenced operations. The new firm will be known as Wesley Wilson & Co. The new Mr. Wilson has been connected with one of the extensive coal companies on the Penn-sylvania Railroad for years,

TENNESSEE. There are three rolling mills at Chatta-nooga. The Lookout Rolling Mill, a bar and guide mill, containing two heating and three double puddling furnaces. This mill, formerly known as the Tennessee Iron and Steel Works, which has been so long idle, has just resumed work under a new company with good prospects. The Vulcan Works have five double puddle furnaces and six single ones; also bar, guide and plate furnaces. This mill has also a large nail factory containing 30 machines in operation. The extensive works of the Roane Iron Co. contain nine double puddling furnaces and rail furnaces, one top and bottom, one steel blooming furnace (gas) and two Siemens-Martin melting furnaces; also refining fur-

Martin melting furnaces; also refining furnace for steel purposes.

M. & E. C. Curtis, manufacturers of stoves, St. Louis, have in course of erection a three story brick warehouse, adjoining their office on the west. The present place of storage in the old building will be utilized as a mounting department. The present output, amounts to as cooking storage parameters. output amounts to 35 cooking stoves per day. The iron used is chiefly Georgia and Tennessee pig, it being found to be excellent iron for this purpose.

LABOR AND WAGES.

In Schuylkill, Northumberland, Columbia and Dauphin counties, Pa., there are employed in different capacities about the coal mines 28,816 men and boys. The last monthly reports of the mine inspectors show that in that time there were forty accidents and seven of these were fatal.

The laborers at Carnegie Bros. & Co.'s Union Iron Mill, at Pittsburgh, struck on Monday of last week for an advance to \$1.50 per day, but the strike took place after they were laid off and discharged and other men were laid off and discharged and other men put in their places at the rates demanded. \$1.50 per day. It had been the expressed intention of the mill to pay the same rates as other mills were paying, but these men stopped work before making the demand, and under the circumstances the mill re-fused to employ them longer, though paying

the advance asked. A novel suit has been begun at Pittsburgh growing out of the discharge of a workman at the request of his fellow workmen. The discharged workman has sued the committee who requested his discharge, both in a criminal suit for conspiracy and a civil suit for

Puddling at Vulcan Rolling Mill, Chatta-nooga, is \$5.50 per ton. Roll hands are paid Cincinnati prices. Puddling at the Roane

Iron Works is \$5.
Boiling at Richmond, Va., is \$5. The Hope Iron Company, Pottstown, Pa., increased the wages of their puddlers on the 2d of February from \$4 to \$4.25 per ton. Another increase is promised.

The committee of the workingmen at Bay

View Rolling Mills, at Milwaukee, have had a conference with the managers and agreed upon a basis of wages for the ensuing year, fixed at the rate of \$47 per ton, an advance of 27 per cent. over the rates of last year.

The packers in the window houses of Pittsburgh have been granted an advance of to per cent in their wages.

The pilers, drag-downs and laborers at the National Rolling Mill, Pittsburgh, are at present engaged in a strike for increased wages. The pilers get \$1.50 and want \$1.75, the drag-downs get \$1.75 and want \$2.25, and the laborers want a raise from \$1.25 to \$1.50.

The striking shovel makers of Hubbard, Bakewell & Co., Pittsburgh, got 10 per cent. increase on Monday. From September 4, 1879, to January 20, Beymer, Bauman & Co. and C. F. Wella 1880, the Belmont Mill manufactured 100,117 & Co., two Allegheny firms engaged in the

kegs of nails.—Wheeling Leader.
Arrangements have been perfected by manufacture of lead, on Saturday voluntarily advanced the wages of their employees over 10 per cont.

The National Tube Works Company,
McKeesport, Pa., have given notice of another advance in the wages of their em-ployees. As this action was voluntary, it will be all the more appreciated by the

Twenty firms of machinery manufacturers of Pittsburgh have granted the advance of 15 per cent. demanded by the molders and igned a scale. Only three have not signed the agreement—the Keystone Bridge Works, H. K. Porter & Co. and Lewis, Oliver &

Phillips. The puddlers of the Penn Rolling Mill, Laneaster, Pa., were last week given an increase of 50 cents on the ton for puddling iron. The roll and furnace men and skilled workmen were advanced II per cent. at the same

The coal miners' strike at Pittsburgh still The coal minors' strike at Pittsburgh still continues, though the demands of the miners have been changed several times, and though a large number of the pits have resumed work. The demand now is for 4 cents a bushel. The scale originally demanded would have made digging, on the present price of iron, 5 ½ cents. A number of pits are working at 4 cents, and still more at 3 ½ cents. The strike seems nearing its end.

.The contract for a 10,000-candle-power The Hampton Furnace, near Reading, will be blown in as soon as necessary repairs can be completed.

Middlesex has one rolling mill and three blast furnaces in operation at present.

Douglass Furnace No. 2, of Sharpsville, last week, after a successful blast chinery, and a 60-stamp silver mill.

Griffith & Wedge's machine works, of the County Court House at Wabash, Ind., intended to light that city, has been let to the Brush Electric Light Company, of Clevelland, Ohio, for \$1800. The agreement states that, should the light prove unsatisfactory, the city shall be at no expense. A guarantee for a perfect light has been given It will be of interest, on the other hand, to examine the benefits which some of the most important lines of travel derive from the activity of the great American Bessemer industry. Under the protection of the tariff it has grown with wonderGil-

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The Iron Age Directory

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Grant Fan Mili and Cradle Co., Melrose, N. Y.
Hoosier Drill Co., Richmond, Ind.
Wheeler & Melick Co., Albany, N. Y. Clayton Steam Fump works, id and to water st.,
Brooklyn, N. Y.
The Norwalk Iron Works Co., S. Norwalk, Conn.
Alarm Money Drawers,
Fucker & Dorsey, Indianapolis, Ind.
Anti-Frietium Merals,
sceves Paul S., Philadelphia,
Anvils, Manufacturers of,
Fisher & Norris, Tronton, N. J.
Architecturul Iron Work.
Ætna Iron Co., 66 Goerek, N. Y.
Chamberlin E. K. & Co., Cleveland, O.

Eins Iron C., 86 Goerek, N. V.,
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Chamberlin E. K. & Co., Clevoland, O.,
Black, C., & Co., Chambers, N. V.,
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Avies, Springs, &c., Manufacturers of,
Cook R. & Sons, Winsted, Conn.
Hotchkiss Guy C., Field & Co., 52 E. 14th, N. V.,
Lambertville Iron Works, Lambertville, N. J.,
Sheldon & Co., Auburn, N. Y. Sheldon & Co., 12th and Noble, Phila Philadelphia Smelting Co., 12th and Noble, Phila Philatelphia Bag Holder. Sprengle L. Jeff., Ashland, Ohio... Band Saw Machinery. Kimball & Kimball, Philadelphia

Barb Wire. Scutt H. B. & Co., Buffalo, N. Y. Scutt H. B. & Co.. Buffalo, N. Y.

Bellows, Manufocturers of.

Scott Geo. M., Chicago, III.

Beth (Sleigh.)

Bevin Bros. Mfg. Co., Easthampton, Conn...

Belting, Makers of.

Alexander Bros., 412 N. 2d, Philadelphia...

N. Y. Belting and Packing Co., 37 Park Row, N. Y.

Ricycles.

N. Y. Beiting and Packing Co., 37 Park Ro Bicycless.
Pope Mfg. Co., 65 Summer, Boston
Bird Cagess. Makers of.
Jowett John C. & Sons, Buffalo, N. Y.
Lindeman O. & Co., 524 Pearl, N. Y.
Maxheimer John. 27 and 249 Pearl, N. Y.
Maxheimer John. 27 and 249 Pearl, N. Y.
Maxheimer John. 27 and 249 Pearl, N. Y.
Millers Falls Co., 24 Chambers N. Y.
McMillan Win. H. & Bro., 13 South, N. Y.
Penfield Block Works, Lockport, N. Y.
Providence Tool Co., Providence, R. I.
Riowers and Exhaust Fans.

Boilers, Steam. Barber W. H. & Bro., Allentown, Pa. darber W. B. & Seven Bolt Gutters. National Bolt and Pipe Mach. Co., Cleveland, O., Sellers Wm. & Co., Phila, and 79 Liberty st., N. Y.

Bolt Forging Machines.
Forsaith, S. C. & C.O., Manchester, N. H.
Bolts (Serew.)
Coleman Eagle Bolt Works, Philadelphia.
Brass, Manufacturer of.
Coleman Eagle Bolt Works, Philadelphia.
Brass, Manufacturer of.
Brass, Manufacturer of.
Bridgeport Brass, Co., Bridgeport Conn.
Brass Goods Mig. Co., 43 Chambers, N. Y.
Brown & Bros., 81 Chambers, N. Y.
Davol John & Sons, 100 John, N. Y.
Manhattan Brass Co., 184 ave. & 27th 84. N. Y.
Marchart & Co., 60 Market 84. Phila.
Plume & Atwood Mig. Co., 85 Chambers, N. Y.
Warerburk Brass Co., 186 Chambers, N. Y.
Waterbury Brass Co., 186 Chambers, N. Y.
Waterbury Brass Co., 50 Broadway, N. Y.
Brass Founders.
Miller S. P. & Son, 309 S. Fith Phila.
Brick Machines.
Miller S. P. & Son, 309 S. Fith Phila.
Bridge Builders.
Moseley Iron Bridge and Roof Co., 5 Dey. N. Y.
Buckets for Chein Pumps.
Croeby A. D. Chein Pumps.
Croeby A. D. Chein Pumps.
Croeby A. D. Chein Pumps.
Wilson John. Shemfeld England.
Butts and Hinges.
American Surial Spring Butt Co., 5 Beekman, N.

Butcher in Markemeld, Englanu
Wilson John, Shemeld, Englanu
Butta and Hinges.
American Spiral Spring Butt Co., 82 Boekman, N. Y. 38
New England Butt Co., 30 Platt, N. Y. 27
Sabin Mfz. Co., Montpeller, Vt. 22
Stanley Works, New Britain, Conn. 1
Stanley Works, New Britain, Conn. 1

Stating Works, see Chambers, N. Y.

Garriage Boliss, Makers of Shelton & Co., Birmingham, Ct.

Townsend, Whoon & Hubbard, Philadelphia

Carriage Hardware, Makers of,

Covert E. & J. C., Farmer VII aso, N. Y.

Leroy, Shatuck, & Head, Uttee, M. Y.

Pim Richard F., Wilmington, De.,

Smith H. D. & Co., Plantsvin, D.,

The E. D. Clapp Mig. Co., Auburn, N. Y.

Wilcox & Howe, Effmingham, Conn. Carriage Springs. Dexter Spring Co., Hulton, Pa...

Car Axles. Roberts A. & P. & Co., 265 S. 4th, Philadelphia. Cartridges. Hartley & Graham, New York... Clark Geo. P., Windsor Locks, Conn.... Phonix Caster Co., indianapolis, Ind...

Phonix Caster Castings, Fon. Barber W. H. & Bro., Allentown, Pa..... Barber W. H. & Bro., Allentown, Pa..... Caulking Irons. Caulking Irons. Chains, Sash. Morton Thomas, 65 Elizabeth, N. Y. Chiseis, Buck Br

Manufacturers of. os., Millbury. Mass... Clack Bross, and Chucks, Conn.
Chucks, Cushman, A. F., Hartford, Conn.
The E. Horton & Son Co., Windsor Locks, Conn.,
Clack Springs, &Cc.
Cary & Moen, 234 W. 20th, N. Y.
Dunbar Bros. Bristol. Conn
Conl. Miners of.
Ely E. B. & S. W., New York.
Pardee A. & Co., in Broadway, N. Y.
The Hoboken Coal Co. Jersey City, N. J.

Coffee and Spice Mills.
Lane Brothers, Millsrook, N. Y. Enterprise Mfg. Co., Philadelphia, P. Coke.

Copper.
Merchant & Co., 507 Market St., Phila.....
The New Haven Copper Co., 255 Pearl, N. Y. Corn Huskers. Chambers, Bering & Quinlan. Decatur, Ill...

Chambers, Bering & Quinian. Decatur, III.

Corrugated iron.

Moselev Iron Bridge and Roof Co., 5 Dey. N. Y.

Conntersink.

Barber D. F., 1321 Washington, Boston...

Crucibles, Manufactusers of.

Wile. Sledel & Co., 709 Market. Phila.

Cupolin.

Smith & Boyre Mig. Co., 22 Cortlandt, N. Y.

Cutlery, Importers of.

Frucets, Brass, Makers of,
McNab & Harlin Mig. Co., c5 John, N. Y.

Enterprise Mig. Co., of Pa., Phila, and N. Y.

Lane Bros. Milibrook, N. Y.

Faucets, Wood
Penfield Block Works. Lockport, N. Y.

Pennield Block Works. Lockbott, N. Y.

Fites, Importers of.

Gites, Importers of.

Fites, Manuel, Serves of.

Auburn File Works, & Chambers, N. Y.

Barnett G. & H. at and a Richmond, Phila.

Disston Henry & Sons. Phila.

Everhart James M. Seranton, Pa.

Frank Rudolph, 229 Fulton, N. Y.

Johnson & Bro., 1732 and 1734 N. 4th, Phila.

Nicholson File Co., Providence, R. I.

Paul Chas, B., Williamsburgh, N. Y.

Spencer J. R. & Son, Sheffield, England.

Fire Aruss.

Nicholson File Co., Provisione, N. Y.

Paul Chas B., Williamsburgh, N. Y.

Spencer J. R. & Son, Sheffield, England... If

Fire Armis.

Conway T. G., co Chambers, N. Y.

Fire Brick, Makers of,

Borgner & O'Brien, Philadelphia, Pa.

Brooklyn Clay Retort and Fire Brick Works, Van

Dyke St., Brooklyn, N. Y.

Dyke St., Brooklyn, N. Y.

Brooklyn Clay Retort and Fire Brick Works, Van

Dyke St., Brooklyn, N. Y.

St. Hander St. Sons, & Goerek, N. Y.

Krelscher B. & Sons, & Goerek, N. Y.

Maurer Henry, 48 East 3d, N. Y.

Newton & Co., Albany, N. Y.

Strander James & Son, Troy, N. Y.

Perth-Amboy Terra Cotta Co. Perth Amboy, N. J.

Valentine M. D. & Bro., Woodbridge, N. J.

Watson John R., Perth Amboy, N. J.

Filiat and Emery Praper and Cloth.

Bacder, Adamson & Co., 730 Market, Phila.

Frorges, Pershelte, &c.

Bayliss John, 19 East 84th, N. Y.

Buffalo Forge Co., Buffalo, N. Y.

Empire Portable Forge Co., Cohoes, N. Y.

Holt's Cleveland Gauge Co., Cleveland, O.

Keystone Portable Forge Co., 218 Carter, Phil.

Fossiliterous Ores.

Brown T. J., Rockwood, Tenn.

Foundry Factures.

Shown J. W. & Co., 544 Beech, Phila.

Whitehead Bros., 517 W. 15th, N. Y.

Fyrpas.

N. Y. Stamping Co., 311 Avenue A, N. Y.

Furnaces, Makers of,

Richmond & Potts, 119 S., 4th, Phila., Pa.

Furniure Springs.

Stokes & Parrish, Philads., Pa.

Furniure Springs.

Stokes & Parrish, Philads., Furniture Springs. Furniture Springs. Cary & Moen, 234 W. 29th, N. Y.
Gaivanized Iron.
Lefferts Marshall. 90 Eeekman, N. Y....
Garden Tools.
Dunlap C. W. & Co., 43 Chambers, N. Y.
Enterprise Mfg. Co., Geneva. Ohio....
Genring.

Enterprise Arg. Co., Allentown, Pa. Barber W. H. & Bro., Allentown, Pa. Comiy J., Lincoln Park, N. J...... Governmen.
Judson Junius & Son, Rochester, N. Y.
Judson Junius & W. D., Philadelphia.
Grates M. C. & W. D., Philadelphia.
Fonsylvania Heating and Ventilating Works,
Philadelphia

Smyle B. C. & W. D., Filladespills.

Gratics.
Ponnsylvania Heating and Ventilating Work Philadelphia.

Gratics.

Hinges. Staniey Works, New Britain Conn..

Hinges.
Staniey Works, New Britain Conn.
Hog Ringers.
Chambers, Bering & Quinlan, Decatur, Ill.
Holsting Englines, Mckers of.
Holsting Machines.
Barber W. H. & Bro., Allentown, Pa.
Box Alfred & Co., 312 Green, Phila
Clem & Morse, 413 Cherry, Philadelphia, Pa.
Sellers Win. & Co., Phila. and 79 Liberty st., N. Y.
Stokes & Parrish, Philade., Pa.
The Norwalk Iron Works Co., S. Norwalk, Conn.
Utilian Ware.

Dudgeon Richard, S. Lyon E. & Co. 470 Grand, N. Y. Lyon E. & Co. 470 Grand, N. Y. Lee Cream Freezers.

Ice Cream Freezer Co., Laconia, N. H. Chita Mountain Freezer Co., Laconia, N. H.

Ice Cream Freezers.
White Mountain Freezer Co., Laconia, N. H. 8
Insurance, Boiler.
Hartford Steam Boiler Inspection & Insurance Co., 37
Iron Brokers.
Boynton Geo. A., 70 Wall, N. Y.
Etting Edward J., Philadelphia, Pa. 5
Hatry A. G., Pittsburgk, Fa. 5
Hatry A. G., Pittsburgk, Fa. 6
Iron Commission Merchants.
Bailey J. F. & Co., 52 Wall, N. Y.
Heberton & Co., Philadelphia. 5
Lowe S. B., Cnattanooga, Tenn. 6
Mohr J. J., 420 Walnut, Philadelphia. 5
Richardson J. O., 322 Dock, Philadelphia. 5
Wister L. & R., 32 Wainut Phila. 5
Iron. Pig. Importers of,
Clark E. W. & Co., Philadelphia, Pa. 5
Lee James & Co., 72 Pine, N. R.
Swan John E. & Bro., Glasgow, Scotland. 6
Williamson James & Co., 60 Wall, N. Y. 4
Iron Dealers. 4
Iron Pealers. 4
Iron Pealers. 5
Iron Galagow, Scotland. 6
Williamson James & Co., 60 Wall, N. Y. 4
Iron Dealers. 5
Iron South, N. Y. 5
Iron Dealers. 5
Iron South, N. Y. 5
Iron Dealers. 5
Iron South, N. Y. 5
Iron South, N. Y. 5
Iron Dealers. 5
Iron South, N. Y. 5
Iro

Door and Gate Springs.
Door Hoise.
Door Hoise.
Tres Hobart D., New Haven, Ct.,
Ives Hobart D., New Haven, Co.,
Ives Hobart D.,
Ives Hobart D., New Haven, Co.,
Ives Hobart D., New Haven, Co.,
Ives Hobart D.,

Roane Iron Co., Chattanooga, Tenn.
Rome Merchant Iron Mills, Rome, N. Y.
Rowland James & Co., 20x N. Delaware ave, Phila.
Rowland Wm. & Harvey, Philadelphia.
Shoenberger & Co., Pittsburgh, Pa.
Taylor & Boggis, Cleveland, O.
The Passate Rolling Mill Co., Paterson, N. J.
Ulster Iron Works, oo Broadway.
U. S. Iron and Tin Plate Cc., Pittsburgh, Pa.
Williams, Long & McDowell, Pittsburgh, Pa.
Wood alan & Co., 30 arch Philadelphia.
Zug & Co., Pittsburgh, Pa.
Iron, Planished Sheet, Manufacturers of
Wood W. D. & Co. Pittsburgh, Pa.
Jack Screws.

Wood W. D. & Co. Pittsburgh, ra.
Jack Screws,
Wynn, R. D. Windsor, Vt.
Jacks, Lifting,
Dinsmore Mg. Co., 22x Washington, Boston
Lanterns, Manufacturers of,
Dietz R. E., 43 and 65 Fulton, N. Y.
DuBrui N. & Co., Cincinnati, O.,
Howard & Morse, 45 Fulton, N. Y.
Latthes,
Johnson, Jr. Israel H. & Co., Philadelphia.
Lawn Mowers.
Mast. Foos & Co., Springfield, O.

Leveling Instruments.
Bicknell & Comstock, 27 Warren, N. Disston Henry & Sons.. Philadelphia

Yale Lock Mfg. Co., 53 Chambers, N. Y.
Lubricator.
American Lubricator Co., Detroft, Mich.
Faul W. J., 248 Centre, N. I.
Harper Steam Lubricator Co., Westville, Conn.
Michinery, Makers of.
Bliss & Williams, 56 Plymouth, Brooklyn.
Box Alfred & Co., 312 Grees, Phila.
Cuyahoga Works, Cleveland, Ohio.
Landis Ezra F., Lancaster, Pa.
L. B. Flanders Machine Works, 1028 Hamilto
Phila.

L. B. Flünders Machine Works, 1022 Inhibitation Phila.

Forsaith S. C. & Co., Manchester, N. H.

Garvin E. E. & Co. 120 Center, N. Y.

Monawk & Hudson Mfg. Co., Waterford, N. Y.

Pittsburgh Mfg. Co., Pittsburgh, Pa.

Pratt & Whitney Co., Hartford, Conn.

Sellers Wm. & Co., Phila. and 79. Liberty st., N. Y.

Stokes & Parrish, Philada., Pa.

The Stiles & Parker Press Co., Middetown, Ct.,

Wetherill Robert & Co., Chester, Pa.

Wetherill Robert & Co., Chester, Pa.,, Machinery (Barnes's Foot Power.) Little Chas. E., & Fulton, N. Y. Little Chas. E. a. Fulton, N. Y. Machine Screws, Makers of, Hartford Machine Screw Co., Hartford, Conn. Fellows John, Williamsburg, N. Y. Waterbury Mfg. Co., Waterbury, Comm. Machinists, Supplies,
The Chalmers Spence Co., foot oth st., E. R., N.

The Chalibers-Spēnce Co., foot oth st., E. R., N. y., Machinjats' Tools.
Riaisdell P. & Co., Worcester. Mass., Rec., Ph. Co., Sept., Ph. Co., Kennett Square. Pa., Sellers Wm. & Co., Philadelphia, Pa., Pennock Mr., Co., Kennett Square. Pa., Sellers Wm. & Co., Phila., and 79 Liberty st., N. Y., Milleable Iron Castings, Makers of, Hammer & Co., Brandord, Conn. Mallet.

Fenfield Block Works, Lockport, N. Y. 24
Manganesee,
Pyrolusite Manganese Co., 54 Cliff, N. Y. 30
Mychanics' Tools,
Jennings C. E. & Co., 58 Chambers, N. Y. 38
Measuring Tapes,
Eddy Geo. M. & Co., 53 Classon Ave., Brooklyn, N.Y. 10
Ment Chopping Machinery.
Murray fron Works, Burlington, Jowa ... 21
Metals.

Mutral's Roll Wilson & Co., 29 and at Cliff. N. V., Dickerson, Van Dusen & Co., 29 and at Cliff. N. V., Graves O. W. & Co., cor. Cliff and Beekman, N. V. Northrop A. C., Waterbury, Conn. Phelips, Dodge & Co., Cliff, hee. John & Fulton, N. V. Phosphor Eronze Smelling Co., 2038 Washington Phosphor Bronze Smelling Co., 2022

av. Phila.

Purves A. & Son, cor. South and Penn, Phila.

Curincy J. W., & William, N. Y.

Read D. W. R. & Co., 2054. Walmut, Phila.

Sellaw R. & Co., 38. Louis, Mo.

Schoenberg Metal Mfg. Co., ca6 & 50 E. 20th, N. Y.

Starr John. Halifax, Nova Scotia.

Hetallurgists.

Booth, Garrett & Blair, 919 Chant, Philadei
Britton J. Blodgett, 330 Walnut, Philadeip Sritton J. Blodgett, 330 wanns.
Mica.
Peckham J. S. & M., Utica, N. Y.
Miners' Candles, Makers of,
James Boyd's Sons, 10 and 12 Franklin, N. Y.
Mineral Wool,
Elbers Alexander D., 25/4 Broadway, N. Y.
Molding Sand.
Whitehead Bross, 517 W. 15th, N. Y. Monse Traps.
Diete R. E., & and & Fulton N. Y.
Jones Claudius & Co., Erle, Pa.
Ripley Mfg. Co., Unionville, Conn.
Natus.

Jones Chaudhs & Co., 139 Greenwich, N. Y.

Ripley Mrg. Co., Unionville, Conn.

Nails.
Fuller Bros. & Co., 139 Greenwich, N. Y.

4 Oxford Iron Co., 31 Washinston, N. Y.

4 Rowland Jas. & Co., 200 N. Delawher, Ave., Philla. Schoenberger & Co., Fittsburgh, Pa.

4 Zug & Co., Pittsburgh, Pa.

4 Nail Jinchlery.
Fittsburgh, Pa.

56 Condit, Hanson & Van Winkle, Newark, N. J.

Condit, Hanson & Van Winkle, Newark, N. J.

2 Zucker & Leveti, Selo S44 West 16th st., N. Y.

3 Norway Shapes, Rollers g.

Rowland Wm. & Harrey, Frankford, Philadelphia, S.

Note Broker.

Gallaudet P. W., 3 and s Wall, N. Y.

3 Nuts. Bolts, etc., Makers g.

Allentown Rolling Mill Co., Allentown, Pa.

4 Haskell W. H. & Co., Pawtucket, R. I.

5 Steenbergh J. H., Reading, Pa.

5 Sternbergh J. H., Reading, Pa.

5 Sternbergh J. H., Reading, Pa.

5 Unumbago, Oli Co., Rochester, N. Y.

Oil, Plumbago, Plumbago Oil Co., Rochester, N. Y. Oli Stones.
Boyd & Chase, 207th and Harlem River, N. Y.

Boyd & Chase, roth and Hariem River, o. Gres.
Chester Iron Co., or Walnut. Philadelphia.
Bingham C. & & Co., Cleveland, O.
Jackson Iron Co., Cleveland, O.
Jackson Iron Co., Cleveland, O.
Liera J., 15 Dey, N. Y.
Read D. W. R. & Co., 2056 Walnut. Philadelphia.
Patent Solicitors.
Howson & Son. Phila. and Washington, D. C.
Stetson Thomas D., 23 Murray, N. Y.
Tracy Geo. C. & Co., Cleveland, O.
Patent Strong Co., Co., Cleveland, O.
Patent Co., Co., Cleveland, O.
Patent Co., Co., Cleveland, O.
Phosphor Brenze. Phosphor Bronze.
Phosphor Bronze Smelting Co., 2038 Washington ave., Philadelphia.

Phosphor Bronze.
Signature.
Phosphor Bronze.
Phosphor Bronze.
Beatty Daniel F., Washington, N. J.

Planos.
Beatty Daniel F., Washington, N. J.

Plorson & Co. 22 Broadway. N. Y.

Plorson & Co. 23 Broadway. N. Y.

Plorson & Go. 25 Broadway. N. Y.

Plorson & Harlin Mig. Co., 63 John, N. Y.

Pancoast & Haule. 227 Pear. Philadelphia.

McNosals & Archer, Burlinston. N. J.

McNosals & Archer, Burlinston. N. J.

Wyckoff A. Elmira, N. Y.

Plane froms. Manufacturers of.
Huck Bros., Millbury, Mass.

Planes. Manufacturers of.
Huck Bros., Millbury, Mass.

Planes. Manufacturers of.
Stanloy Rule and Level Co., 29 Chambers, N. Y.

Planes. Manufacturers of.
Stanloy Rule and Level Co., 29 Chambers, N. Y.

Planes. Manufacturers of.
Stanloy Rule and Level Co., 29 Chambers, N. Y.

Planes. Manufacturers of.

Stanloy Rule and Level Co., 29 Chambers, N. Y.

Planes. Manufacturers of.

Stanloy Rule and Level Co., 29 Chambers, N. Y.

Planes. Manufacturers of.

Carr Wm. S. & Co., 105 Center, N. Y.

Plows.

Norwegian Plow Co., Dubuque, Iowa.

Norwegian Plow Co., Dubuque, Iowa.

Plows.

Norwegian Plow Co., Dubuque, Iowa.

Plows.

Norwegian Plow Co., 105 Center, N. Y.

Severhart Jas. M., Scranton. Pa.

39 Pocket Knives.

Boker Hermann & Co., 107 Duane, N. Y.

80 Ports and Ktitles. Ten and Coffee.

Purts R. C., Filladelphia.

21 Dienell, Eisenhardt & Co., Philada, Pa.

22 Ports and Ktitles. Ten and Vegetable.

80 Ponder Hammann & Co., 107 Duane, N. Y.

80 Presses. Fruit and Yegetable.

90 Presses. Fruit and Yegetable.

91 Presses. Fruit and Yegetable.

92 Presses. Fruit and Yegetable.

93 Presses. Fruit and Yegetable.

94 Pro

Sad Irons. Chalfant Mfg. Co., 435 Arch, Philadelphia. Enterprise Mfg. Co., Philadelphia....... Mahony M. Troy, N. Y.

and und Emery Paper, Makers of.

Paeder, Adamson & Co., 730 Market, Philadelphia...30 Faceter, Adamson & Co., 730 Market, Philadelphia.
Saws, Makers of.
American Saw Co., Trenton, N. J.
Boynton E. M., 80 Beekman, N. Y.
Disston Henry & Sons, Phila.
Gerlach Peter & Co., Cleveland, Ohio,
Queen City Cabinet Co., Chebinati Ohio
Waller, Madden & Clemsen Mfg. Co., Middle Wheeler, Madden & Clemsen Mfg. Co., Mitown. N. Y.
Saws, Scroll
Trump Bros. Machine Co., Wilmington, Del.,
Seales, Manufacturers or.
Arnold & Rowe, Lansingburg, N. Y.
Buffalo Scale Co., Buffalo, N. Y.
Charillon John & Sons, ci Cliff, N. Y.
Howe Scale Co., Rutland, Vt.
Richel & Rose, John Co., Rutland, Vt.
Richel & Rose, John Co., Phila.

Screws, Makers or.

Subset F. L. Sc Quarry Philadelphia Re. Screws, Makers of.
Miles F. S., 205 Quarry, Phila.
Philadelphia Serew Co., Philadelphia, Pa.
Screw Criting Machinery.
Whey & Russell Mig. Co., Greenfield, Mars
Screw Drivers, Uniproced Makers of
Diston Henry & Sons Phila Barber W. H. & Bro., Allentown, Pa...... Sellers Wm. & Co., Phila. and 79 Liberty st... Shears. Renz Hardware Co., Bridgeport, Conn. Renz Hardware Co., Bridgeport, Conn.
Shears (Sheeb).
Field Alfred & Co., og Chambers, N. Y.
Hildick A. H., 12 Warren, N. Y.
Shot. & C.
Sparks Thos. W., 12 Walnut, Philadelphia..
Shoveis, Spades and Scoops.
Groom Shovel Co., St. Louis, Mo.,
Hussey, Binns & Co., Pittsburgh, Pa.
Shutters, Steel and Wood.
Clark & Co., 16 W. 27th, N. Y.
Smelting Works.
Philadelphia. Smelting Co., 12th and Noble sts.
Philadelphia. Smelting Co., 12th and Noble sts.
Philadelphia. Reeves Paul S., 760 South Broad, Phila.
Smaths. Speaking Tubes. Ostrander W. R., 19 Ann N. Y., wright Feter & Sons, & Broadway, N. Y.
Spoons.
Rogers Wm. & Son., Hartford, Ct.
Springs.
Rogers Mm. & Son., Hartford, Ct.
Springs.
Roy Man & Son., Hartford, Ph. 1.
Steam Boilers.
Babcock & Wilcox, 30 Cortlandt. N. Y.
Barber, W. H. & Bro. Allentown, Pa.
Steam Hammers. &cc., Makers of.
Dienelt, Eisenhardt & Co., Philadelphia, Pa.
Dudgeon Richard, 24 Columbia, N. Y.
Steam Pumps, &cc., Manufacturers of.
Cameron A. S., East 23d. N. Y.
Clayton Steem Pump Works, 14 and 16 Water st.,
Brooklyn, N. Y.
Crane Bros. Mfg. Co., Chicago, III.
Storer U. W., 124 N. 32. Philadelphia, Pa.
Brocklyn, N. Y.
McGowan John H. & Co., Cincinnati, O.
Storer U. W., 124 N. 32. Philadelphia,
The Norwalk from Works Co., So. Norwalk, Ct.
Sweel Chastings, Manufacturers of.
Eureka Cast Steel Co., Chester, Pa.
Pittsburgh Steel Casting Co., Pittsburgh, Pa.
Pittsburgh Steel Casting Co., Pittsburgh, Pa.
Steel importers.
Carr J. & Riley, & John, N. Y.
Hobeon Francis & Son, of John, N. Y.
McCov & Co., 124 and 126 Duane, N. Y.
Pierson & Co., 24 Broadway, N. Y.
Volif, Kahn & Co., 46 Cliff, N. Y.
Steel (Mashet's Special.)
Randali & Jones, 10 Cliver, Boston, Mass.
Steel Manufacturers. Randali & Jones. 10 Oliver, Boston, Mass.

Steel Manufacturers.
Albany & Rensselaer Iron & Steel Co., Troy, N.
Albany & Rensselaer Iron & Steel Co., Troy, N.
Albany & Rensselaer Iron & Steel Co., Troy, N.
Cleveland Rolling Mill Co., Cleveland, O.
Cocker Brothers, Sheffield, Eng.
Forest City Steel Co., Cleveland, Ohio.
Gautier Steel Co., Ld., Johnstown, Fa.
Mildvalc Steel Works, Steetown, Phila, Pa.
Miller, Metcalf & Parkin, Pittsburgh
Miller, Metcalf & Parkin, Pittsburgh

Steeline.
Baner & Co., of Greenweh ave., N. Y.
Steel Spiral Springs, Manufacturers of.
Catry & Moen, 23 W. 20th, N. Y.
Chattillon John & Sons, 91 and 93 Cliff, N. Y... Stocks and Dies.
Armstrong F., Bridgeport, Ct.,
Holroyd & Co., Waterford, N. Y
Wiley & Russell Mfg. Co. Green enfield Mass Stove Boards, Manufacturers of,
Ansonia Brass and Copper Co., 19 and 21 Cliff. N. Y. 9
Stove Brucks.
Tucker Alarm Till Mg. Co., Indianapolis, Ind., 10
Sugar Bucket and Hanger.
Post C. C., Burlington, Vt. 22 Tacks.
American Tack Co., Fairhaven, Mass.
American Tack Co., Fairhaven, Mass.
Dunbar, Hobart & Whilden, 39 Warrez, N. Y.
Field A. & Sons, Taunton, Mass.
Grundy Geo. C. 166 Greenwich N. Y.
Shelton & Co., Birmingham, Ct. Grundy Geo. C. 16s Greenwick N. Y. Shelton & Co., Birmingham, Ct.

Taps and Dies.
Carpenter J. M., Pawtucket R. I.
Manning H. S. & Co., 111 Liberty, N. Y.
Wiley & Russell Mig. Co., Greekfeld, Mass.

Tin Plate. Importers of
N. & G. Taylor Co., Philadelphia.

Tin Plate. Manufacturers or.
Monitor Tin Plate Works, S. Cliff, N. Y.
U. S. Iron and Tin Plate Co., Pitteburgh, Pa. Tin Ware, Stammed and Japanned Illock David, 65 Bayard, N. Y. Haberman F., 29 Pearl, N. Y. Shepard Sidney & Co., Buffalo, N. Y. Shepard Sidney & Co., Buffalo, N. Y. Butler, Jr., H. V. & Co., 34 Reade, N. Y. Tee Calks.

Ives, Woodruff & Co., Mount Carmel, Conn. Tools, Railroad and Mining. Metcarf. Paul & Co. Pittsburgh. Pa. Tools. Steam and Gas Fitters. Saunders' Sons, Yonkers, N. Y. Saunders' Sons, Yonkers, N. Y.
Troweis,
Bruce Geo. W. I Platt, New York.
Try Squares, Hevels, &c.. Makers of.
Disston Henry & Sons, Phita.
Tube Expanders.
Dudgeon Richard. 24 Columbia, N. Y. Tubing.
Merchant & Co., tor Market, Phila.

Twist Drills. Makers of.
Morse Twist Drill & Mach. Co., N. Bedford, Mass. 8
Uphoisterers' Goods.

Turner & Seymour Mfz. Co. 81 Reade, N. Y. 24
Valves, Gins. Water and Steam.

Consolidated Safety Valve Co., Boston, Mass. 35
Ludlow Valve Mfg. Co., Troy, N. Y. 36
Mohawk & Hudson Mfg. Co., Waterford, N. Y. 8

Varvalah. Varuish.

Berry Brothers, Detroit, Mich.
Vises.
Millers Falls Co., 74 Chambers. Wheels, Railroad. Whitney A. & Sons, Philadelphia...... White Lead.

White Lead Co., 89 Maiden Lene N. Y.
Colkate Robert & Co., 287 Pearl, N. Y.
Jewett John & Sona, 182 Front, N. Y.
Lewis John T. & Bros., 231 S. Front, Phila., Pa.... Window Balances.
Hugunin Robt. B., Wethersfield, Conn...
Window Springs, Hokers of,
Hammond W. S., Lewisberry, Pa..... Wire Goods. Manufacturers of.
Dufur & Co., 26 N. Howard st., Baltimore. Md....
Gilbert & Bennett Mfg. Co. 272 Pearl, N. Y...... Bufur & Co., to N. Howard St. 1984 A. S. 198 Kimball & Kimball, Philada. Pa.

Wringers.
Alexander T. J.. Boston, Mass.
Alexander T. J.. Boston, Mass.
Metropolitan Washing Machine Co., 52 Cortlandt,
N. Y.
Peerless Wringer Co., Cincinnati, O.

ZUCKER & LEVETT, **NICKEL PLATERS'** SUPPLIES.

Estimates for Complete Outfits Furnished. 540, 542 & 544 W, 16th St., New York.



PATENTED HARDWARE MANUFACTURERS & IRON FOUNDERS, THIRD and DAUPHIN Sts., PHILADELPHIA.

DURRIE & McCARTY, 97 Chambers Street. New York Branch House with 0 Jel'i



Price, \$3.50.

SPECIALTIES.

Enterprise Patent Cold Handle Double Pointed

SMOOTHING & POLISHING IRONS

COFFEE, SPICE & DRUG MILLS, CHAMPION TOBACCO CUTTERS, PATENT MEASURING FAUCETS, SELF-WEIGHING CHEESE KNIVES,

AND

STORE A

2

E DRI

0

FRUIT, LARD and JELLY PRESSES, CHAMPION DRIED BEEF SHAVERS,

The Ore Supply of the West for 1880.

The Bulletin of the American Iron and

The Bulletin of the American Iron and Steel Association publishes the following on the ore question in the West:

A gentleman whose complete knowledge of the subject inspires confidence in his judgment, has carefully estimated the probable consumption of iron ores west of the Allegheny mountains, north of Kentucky and east of the Mississppi, during the current year, and as carefully investigated the sources of supply. On one side he has put rent year, and as carefully investigated the sources of supply. On one side he has put down in detail the demands of each iron-producing district, and on the other the capacity of each mine which will ship any considerable quantity of ore. His estimate shows that there will be wanted a grand total of 2,490,000 tons of iron ore, representing a value when delivered at furnaces of from \$16,000,000 to \$20,000,000. Missouri and the South were credited with the ore shipped to Western furnaces, but the Missouri and Southern furnaces were not in-Missouri and Southern furnaces were not in-cluded in the estimated consumption of iron

core.

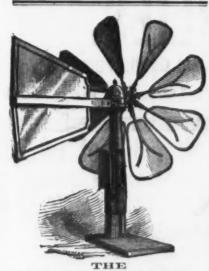
Large as this demand will be, it simply serves to illustrate the extraordinary development of the mining industry of the West, and especially of the Lake region, for the supply, in view of foreign ores contracted for, will be entirely adequate. There will be no ore famine; the limits of production of existing mines have not been reached; and the exploration and development of new fields, now on foot, will tend to preserve a healthful balance of supply and demand. The present sources, with their probable output in gross tons, may be summarized as follows:

Lake ores. Specular. Marquette Region, 16

Lake ores, Specular, Marquette Region, 16 Lake ores, Menominee Range, 13 mines... Lake ores, Hematite, Marquette Region, 15

That the demand for metal must necessarily continue there seems to be little doubt; but a continued advance of prices beyond present quotations should not be expected, nor, indeed, is it to be desired. The moment that it is well ascertained, as it must be, that the productive capacity of our furnaces and mills is adequate to the supply of all prospective demands for iron and steel, the present feverish condition of the market will end, not, we hope, in violent reaction, but in orderly, regular and active business. Until this happens all operations must have somewhat of a speculative character, and the influence of good times cannot extend itself equitably through all the departments of business. Possibly it may serve a good purpose for us to say: "Don't be alarmed; there is and will be an abundant supply of ore. Don't go crasy with apprehension; there is sure to be a plentiful supply of pig metal." That the demand for metal must neces-

The total number of cars built and re-paired at the Pennsylvania Railroad car shops in Altoona for the year ending Dec. 30, 1879, was 16,699.



Hartford Automatic Pump.

Water Driven to any Hight and Distance by Compressed Air.

Country Houses Supplied Cheaply and Certainly for Bath Rooms, Water Closets, Hot and Cold Water Faucets, &c. Flenty of Fresh Water for Stock on Farms. The best Fump for Irrigating, supplying Ealiroad tanks, and for Lining purposes.

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importers and Manufacturers of Pune TURKISH EMERY

A. A. IRVINE & CO., Agents, 14 MURRAY ST., NEW YORK. Send for quotations and samples.

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Plastic or Hair Felt, with or without the Patent "Air Space" Improvement.

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Saves its cost every time it is used. THE CHALMERS-SPENCE CO., 50 FEDERAL STREET, BOSTON.



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> Improved Pat. Iron Sheaves (steel rollers) The Giant Car Pusher,
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Ten Pins and Lig. Balls.

Send for Illustrated Catalogue and Price List,
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No. 5—Inside from strapped block,
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Sheaves. and mention this paper.

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PEERLESS



Most Saleable Wringer in the Market. TRY A SAMPLE ORDER.

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OUR SPECIALTY.—Plows for difficult soils and of great durability. Also, Scrapers for railroad work. For durability and scouring qualities the sest Flows produced in the country. Warranted o scour in any soil. Made with extra thick point and shins. Symmetrical and correct in model casy running and thoroughly pulverising the soil Agents Wanted Everywhere.

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Manufacturers of R. R. Track Scales, Hay Scales, Coal Scales, Grain Scales, Platform Scales, Counter Scales, &c. Send for price list, stating what you want

The Leading Wringer of THE STAR SALT CASTER CO., Office, No. 161 FRANKLIN ST., BOSTON, Manufacturers of

Specialties in House Furnishing Hardware, PATENT EXTENSION DOOR KNOBS



the annoyance of washers and pins Our "Patent Cham ber" (Pat. Nov. 6

THE STAR SALT CASTER CO., Boston, Mass

PAT. "SCREW WINDOW BALANCES. Liberal Discount to the Trade.

ROB'T B. HUGUNIN, Manufacturer of Screw Balances, Wethersfield, Ct. For sale by BUTLER & HUNTING,
53 Dey street, New York.

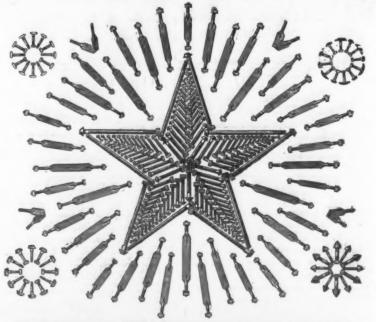


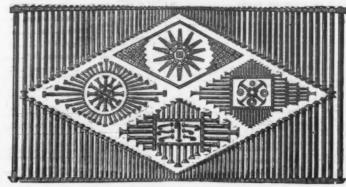
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Norway and Charcoal Iron Carriage Bolts, Tire and Fancy Head Bolts, "Star" Axle Clips. Quality guaranteed. Finish unexcelled.

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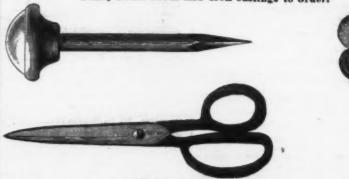
2301 Cherry Street,

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HE TURNER & SEYMOUR MFG. CO.,

Upholsterers', Stationers', House Furnishing and Fancy Hardware AND NOTIONS.

Fancy Brass Goods and Iron Castings to Order.



Picture Nails, Knobs and Hooks, in great Variety. Gilt and Tinned Picture Wire, Twisted and Braided.

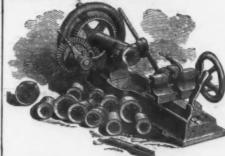
American Cast Shears, Sold by Hardware and Notion Dealers everywhere.

Also Manufacturers of Shade Fixtures and Trimmings, Ink Stands, Twine Boxes, the Celebrated Family "Egg Beater, Nutmeg Graters, Escutcheon Pins, Curtain Rings, &c., &c. FACTORIES, Wolcottville. Conn.

WILEY & RUSSELL MFG. CO.,

Greenfield, Mass Lightning Screw-Cutting Machinery and Tools,

Bolt Cutters for hand or power; Lightnerew Plates, cutting from wire sizes to 11/4 crew Plates for Threading Cas Pine. To Screw Plates, cutting from wire sizes to 1% in. Screw Plates for Threading Gas Pipe; Taps, Dies and Reamers for use in the Bit Brace; Tire Bolt Wrenches, Nut Wrenches, &c.



The Green River Tire Measur-

ing Wheel. Green River Drills, hand or power. Green River Tire Benders. Green River Tire Upsetters.

Green River Horse Shoers' Vises. Special Screw Plates for use in stock or the

Send for Illustrated Price List.

ent in The Iron Age of February 5, 1880. WHEELER & MELICK CO., ALBANY, NEW YORK, U. S. A., Manufacturers of

FARM IMPLEMENTS IMPROVED AND MACHINERY.

MARTIN'S ENGLISH HORSE CLIPPERS. J. J. Shannon, a 1707 Market St. \$3.25 EACH. Extra pieces for PHILADELPHIA.

FORGES IMPROVED without Belts, Bellows, Crank Pins, Dead Certers or Back Motion. Send for circular. EMPIRE PORTABLE FORGE CO., COHOES, N. Y.

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HENRY DISSTON & SONS

KEYSTONE SAW, TOOL,



STEEL and FILE WORKS,

FRONT AND LAUREL STS., Philadelphia.

BRANCH WORKS: Tacony, Pa.; Chicago, III.

We desire to call attention to the improvement in putting up our goods, substituting boxes for paper covering. This will prove a great advantage to the dealer, saving the time consumed in untying and tying, also keeping them in better condition.

The new style Box here shown is our latest. We have been putting up the No. 76 D-8 and No. 120 Saws in boxes containing one-third of a dozen.



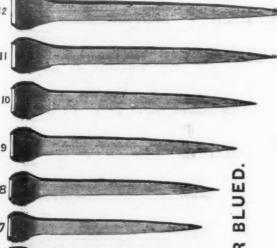
We have decided to put up all the saws marked

Disston" in this manner. The boxes will contain \$\frac{1}{8}\$ dozen, and be assorted as follows: $\frac{5}{7}$, $\frac{9}{7}$, $\frac{7}{8}$, $\frac{8}{9}$, $\frac{10}{10}$, $\frac{10}{11}$, $\frac{11}{12}$, which makes two of each size teeth in a box.

We will send all of the same size teeth in a box, if so ordered.

Henry Disston & Sons.

Twisted, Bent and Drawn COLD.



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AUSABLE HORSE NAILS,

Hot Forged and Cold Hammered Pointed,

Are the only Nails in market that are made in imitation of the Hand Process. They have the uniformity of Machine Nails and the toughness of those hammered by hand Our

HOT FORGED AND COLD HAMMERED POINTED NAILS

Are the Standard Nails.

and are acknowledged to be the best in the market. They are used by the best shoers in New York, Brooklyn, Philadelphia, Chicago, Seint Louis, Milwaukee, Baltimore, &c., and

GENERALLY THROUGHOUT THE UNITED STATES.

They also compete successfully in Foreign Countries with machine and hand-made Nails of their

AUSABLE HORSE NAIL CO.,

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A. B. GUNNISON,

ERIE, PA. ESTABLISHED. - 1856. Warranted Cenuine cumber Pumps & Pipe. Also Poplar Pumps, Lined Pumps, &c. The Trade Supplied by B. GRIFFING, 60 Cortlandt St., N. Y. MANN. Washington, D. C. P. MANN. KIRK & DICKSON New Castle, Fa

KNECHT & THOMAS, Winchester, Ind.

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THE UNIVERSAL LIFTING JACK,



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For lifting carriages, wagons, heavy loaded teams fire engines, railway cars, &c. Four sizes, with patent rubber cushions; will not mar the finest painted carriage.

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Agent for CLEMENT & MAYNARD'S Trowels, Hoes-toovels, Spades and Scoops. Their Trowels and Hoes-tave entirely supplanted the English by their quality and chespness, while all their goods compare advan-accousty with those of other makers, and are largely

WM. H. HASKELL & CO.,

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COACH SCREWS (With Gimlet Points).

> Machine and Plow Bolts, FORGED SET SCREWS

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Retinned Ware, Plain Piesed Tin Ware, Bathing Apparatus, Toilet Ware, Tin Toys,
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and Filters, Harness Oil Cans, Soldering Coppers.
"Iron Clad" and "Double Rim" Stove Boards, "Palace? Coal Vases, "Champion" Ice Cream Freezers, "Novelty" and "Elevated
Swinging" Transportation Cans.
PERFORATED SHEET IRON FOR PAPER MANUFACTURERS AND MALT KILING.

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Patent Improvement in



No more Splicing or Winding Ends with Cord.



No. 1.

Rope Halters, Horse Ties, Cattle Ties, Halter Leads, &c., made by clamping the lap with steel rings, as shown in cut. Also, clamping the end with a ring to prevent unbraiding.
This is all accomplished by machinery, and a superior article can be made at so much less cost, it will not pay any one to make up goods the old way. We are now prepared to furnish the trade the cheapest and best Rope Halters ever made. No. I illustrates the twisted and irregular form of the spliced Halter; also the insecure method of whipping the end with cord, which invariably somes off, and allows the rope to untwist. No. 2 illustrates the New Halter. It is made by clamping the laps with steel rings. The end is also secured with a steel ring, which will remain as long as the rope lasts. We have also a full line of



Leads, Leather Horse and Cattle Leads, Leather Horse Ties, Breast C. Post Roda, &c. These goods are fareal merit become state of the control bers in general and saddiery hardware at manufacturers' prices. Send for illustrated of price list. Address COVERT MFG. CO. Sole Manufacturers, West Troy, N. F



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TOOL HANDLES AND SEAT STICKS FOR CARRIAGES, &c. all kinds of Enameled Goods made of wood, such as Deop Knobs, Furniture Enobs, Organ Stops, Eruables, Sc., &c. Also sole manufacturer of the Patent ANTI-BERVOUS TRIANGIAE PENBOLIER, if for Catalogue and Price List before purchasing.

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Unfactory at BURLINGTON, Comm., U. S. A.,

lesale Prices, February 11, 1880. Ne

HARDWARE.	Butts. Wrought Brassd	Cutlerv. 8 30 % Meriden Cutlery Co. (Table)
postoronine	;ast Brass, Tiebout's	33/4 Am. Miller Bro.'s Cutlery Co
A nvils. Eagle Anvils (American)	First Coint Names dis f	Ato S F. W. Rogers & Son. A. A.
Wright's	Lager Joint	Ero S Dog Collars.
Trenton	" Broad dia 2 Lue-Joist diese " Janango dis 2 " Janango dis 3 " Janango dis 3 " Janango dis 3 " Janango dis 4 " Janango dis 4 " Janango dis 5	&is 5 Embossed Gilt &ro 5 Leather
Conn. Valley Mfg. Co	Lose Pin no Acorn	&10 4 Brass &10 5 Door Springs.
Humphrevsville Mfg. Co	Acorns dis 30 Japanned dis 30 Plated Tips dis 30	Rio S Torrey's Rod
Beecher (French, Swift & Co)	WROUGHT IRON. Fast Joint Narrowdis 25	RIOS Bee Rod
Nobles Mfg. Co	Lt. Narrowdis 25	No. 1, Large, Japanned
Rosson's Patentdis 50%	Loose Joint, Broad dis 25 Table Butts, Back Finps, &c dis 25 Inside Rlind, Regular dis 25	10 % No. 3. Small. 10 % Challenge (Coil)— Nos. 9
ook's, lves'		Japanned # dos \$2.0 Coppered # dos 4.0
" B. Machine. dis 40 % C. S. Bits. dis 40 %	Loose Pin, Wrt. dis 55 Spring Hinges: American Spring Butt Co., Jap'd. difference of the Market Co., Jap'd. difference of	No. 1, Large, Japanned No. 2, Medium No. 2, Medium No. 2, Medium No. 3, Small Challenge (Coll) Nos. 9 No. 10 San Coppered W. dos. \$2.0 Coppered W. dos. \$2.0 Coppered W. dos. \$2.0 Nickeled W. dos. \$2.5 Nickeled W. dos
" Jenning's Bitsdis 35 % atent Solid Headdis 30 %	Gem Spiral Spring Butts, Japanneddi	Japanned. \$\pi\$ doz \$\pi_{7.5}\$ likeled. Op. \$\ph\$ doz \$\pi_{7.5}\$ star (Coil)—For Cop! \$\ph\$ doz \$\pi_{7.6}\$ star (Coil)—\$\ph\$ doz \$\ph\$ doz \$\p
Russell Jennings' Auger Dowel, Machine- Dowel and Hand-Rail Bitsdis soktoskie S	Geer's Single and Double Actingdi	25 % No. 4, ("Snoo Fly") Screen door siz 35 % No. 5, Screen Door Size
tassell Jennings' Augersdis 16%&10&10&10 % tassell Jennings' Car and Machine Bits, Boring- Machine and Millwrights' Augers dis 25&10&10&10 %	Union Spiral Spring, Japanneddi	No. 6, Medium
Machine and Millwrights' Augers dis 25&10&10&10 % mitation Jenning's Bitsdis 40@45 %	American Spring Hinge Co.'sdi Union Mfg. Codi	25 % Sabin's Boss, No. 1, \$5.40; 2, \$ 25 % Sabin's Crown,
ewis' Single Twist Bits'	Bommer's	25 \$ Philadelphin
xpe naive Bits, Clark's. small, \$r8; I'ge. \$26dis 25 % Ives	Seymour	Rubber, complete
Nachine and Millwrignts' Augers dis 26210810810 5 mitation Jenning's Siste.	Nos. 1 &	Crossman's No. 1
French Swift & Co	" Luil & Porter	Nobles M(g. Co Bradley's
Stearns' Adjust., W doz \$48—dis 25&10 \$	" Huffer	
mlet Bite. S7.50 F gross, dis 45 5	Bow Pins.	Orthograd Orth Meaning
mlet Bits	Humason, Beckley & Co.'s (low list)dis Sargent & Co.'e	Riacksmitns' Blacksmiths' Seif Feeding
Ct. Valley Mfg. Codis 30%10 g	Butchers' Cleavers. Humason & Beckley Mfg. Co	
Douglass" die 20 g "Douglass" die 20 g "I Fees die 30 g die 20 g Hozzmedieu's Ship Augers die 11 g atroes Ship Augers die 11 g die 11 g die 11 g die 12 g	Bradley's dis	Prenst, Wilson's
Hommedieu's Ship Augers	1 2 3 4 5 0 7 8 \$10.50 10.00 21.50 24.00 27.00 30.00 23.50 36.50	Ratchet, Merrill's Bartholomew's Ratchet, Merrill's Inpersoll's Whitney's
Awi Haits. ewing Brass Ferrule83.50 W gross—dis 40&10 %	In Openers. Messenger's Comet	Ingersoll's
and the same of the same of	American	70 % Moore's Triple Action
September Sept	Lyman's # dog #1.75 dia	Wilson's Drill Stocks
A wis, Brad Sets, &c.	No 4, French.	net of Drill Chucks.—Morse's Beach
wis fewing, Common# gross \$1.35—dis 25 % " Sewing, Best# gross 1.40—dis 10 %	Sardine Scissory. # doz \$7.00, dis Star. # doz \$4.00, dis 20	Danbury
" Patent Peg @ gross .60-dis 15 %	Canas Percussion, 2 1000.	Wattonal
** Shouldered Brad # gross \$2.70—dis 25&10 % ** Handled Brad\$7.00 # gross—dis 20&10 %	U. M. C., F. C. trimmed	Familyper gross \$23
	G. D. & S. B	
nd Sets, Aiken's	E. B. 1-10, Trimmed	Mill E. Buckets, heavy, sto to inche
** Handled Scratch ** ** ** ** ** ** ** ** ** ** ** **	E. B. 1-10 Ground Edge	Storehouse, (Duc's Patent) 12 to 17, 11et Emery and Emery Paper.
A xie Grease, Frances F D 60	Cards.—Horse and Currydis	Genuine Chester—Regular Nos
	Cottondis Wooldis	in 10-lb. cans
Bella.	Car Pusher" Giant "\$6,25 each, dis : Carpet Stretchers.	washington Mills - Regular Nos. Flour. Weilington Mills, Grain. Flour. Flour. Flour. Flour. S A A Fmery Paper. B & A Fmery Paper.
nnd, Light Brass dis. 6a&10 \$	Cast Steel, Polished	% Hampden Emery Grain.
White Metaldis 50&10 \$	Casters.	Enameled and Tinned Ware
" Glove (Cone s Patent)	Plate and Shallow Socketdis 15&1	Kettles
A hombres discourse file	Cattle Leadersdis 15&1	Tinned Sauce Pans
rank Taylor's	Hotchkias' Hons'dis 52&1	S Iron
" Cone's	Chain.	S Brass
ver, sargent's, new use Dec. 78	rrace, 66-1-2	Brass Thread.
Concest	lerman Halter Chain, New list Oct. 22, '79die 2	Wood
il		
Western dis 20210 5	Coll. New list Oct. 22, 79 Glis 2	et Star
Sargent's new list	Chalk.	West's Patent Key
NOS. 0 1 1% 2 3 4 5 0 Hog dis 40 5 8 12.00 10.00 0 00 8.00 6.00 5.00 3.50 2.50 5.00 \$	Vhite. ₱ gross 6cc r led. ₱ gross 8cc r luc. ₱ gross 1cc r vhite Crayons. ₱ gross 1cc r	et Metallic Key, Leatner Lined
Wilson's (Moore's)	white Crayons	Felloe Plates
eksmiths', Commondis 45%	Chiseis. ocket framing, Crossmandis 55% is	S Auburn
" Extra and Pittsourgh Patterndis 20 %	" Buck Bros new list dis 22	E. M. Boynton's
nd Bellows List of Dec. 1, 1879, net	" Witherby Tool Co dia 6	# Heller & Bros (new list)
leiting. Rubber. Y. Belting and Packing Conew list net	Douglass' dis 6: Firmers, Crossman dis 53 & 2: Buck Bros new list dis 23: Merrill de 6	J. & Riley Carr
sit ileiders. tension, Barper's	" Witherby Tool Codis or dis or distance.	sutcher's Walter Spencer & Co.'s "Diamond". Fisher's.
" Ives"		5 Fisher's. 6 Moss & Gamble. 7 H. Disston & Sons (new list). 7 Western (new list).
lind Adjusters.—Domestic dos \$3.00, dis 20 %	Spear & Jackson's	Western (new list)
Sand's	on Providence Tool Co to West Tree	- Knex. 4-inch Rolls
old pattern * gross \$0.00 net	Adjustable, Gray's dis 20	Feerless, 4-inch Rolls
riman's new list net krell's doz. pairs, \$0.65, dis. 10 %	" Snow's dis 40&5 " Hammer's dis 15 " Stearns' dis 15&216	Engie, 254-inch Roll
bed. 16 in. and larger F higher not	Cabinet, Sargent's dis 54210 Carriage Makers', Sargent's dis 54210 Cord and Tape (T. & Mr. Co.)	Rureka, No. 1, 7-inen Roll
locks.—Burr & Codis 2=&101	Cups. Axic.	Star 4½ in \$4.00; 6 in Crown Jewel
Forential Pulley Blocks	orway or Bestdis 40& periordis 40&5	American, sin., \$3;6 in., \$3.40;7 in.,
all steel roll'r.dis 10 %	Cockeres1\(\(\) in., 28c.; 1\(\) ncn, 33c.; 1\(\) in , 57c, no Cockes. Brans.	Crown Hand Fluter, Nos. 1, \$15.00; 2
Sheaves dis 35 % kindley R. & L. Co., Rope and Iron Strap'd dis 33\\ 20 \ P	neking	Shepard Hand Fluter
too Chate Concent's Note die 6-18-008	Coffee Milia.	Clark's Hand Fluter
h's Lever and Chain Boltsdis.40 % [In	ard and Boxnew list, Jan., 1880, dis 35	T. SCHOOL CACEDONS SOLL
Aught Barrel dis 402 to 5 Square di Inco Standards list of 5 Aught Square di I	Bor's Pat.	Hay, Manure and Sp'Aing
Brass Knob. " dis 20210 \$	euch Steel	Reed & Barton.
Sunk Flush, Sargent's dis ookio k	r doz \$15.00	Enterprise Mfg. Co
Ex. Heavy. dis 40%	Compasses, Dividers, &c. mpasses	Burnished. list as follows
riage and Tire, Common	Uipersdis 45	
" Philada, Pattern dis recornes I Di	ALS AL	Chapin s
Philada Pattern dis 50% 50% 10% Di Shelton's	mis & Call Co.'s Dividers	Wire
" Philada Pattern dis 50g.00:10 B B Shelton (id list) tils 55 Shelton (id list) tils 55 Am. Screv Co.'s Phila new list, Nov 1, 79, dis 50 \$ B Shelton (id list) dis 50 \$ Shelton (id list) dis 5	mis & Call Co.'s Dividers	Charles Patents
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* *	Washita Stone No 1, 30 m 15c net No 2, 32 m 15c net No 2, 32 m 15c net No 1, 30 m 15c net	
×	Stone	
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et	Squares. Steel. dis 50 %; full cases, dis 50 % 10 % 1 coah Iron. dis 50 %; full cases, dis 50 % 10 % 10 % 10 % 10 % 10 % 10 % 10 %	
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20%	Ives' Tap Borers	I
MANAM	Tages, Measuring	١
et et	Tin Case disco Surrers, dis 20 % Tobacco Surrers, Enterprise Mfg. Co. (Champion). dis 20 %	l
et	Tobacce #utters, Enterprise Mig. Co. (Champion). dis 20 5 Wood Bottom \$\psi\$ doz \$12.00, dis 40&\circ \$\circ\$ All Iron. \$\psi\$ doz \$512.00, dis 50 \$\circ\$ Nashua Lock Co.'s. \$\psi\$ doz \$61.00, dis 50 \$\circ\$	
MANA	Tae Calks.—Winsted ® n oc. dis s s	
元元元年	Tinners' Tools and Machines. Machines (P. S. & W.)	ļ
9 12 18	Traps Game, Newhouse dis 50 % Game, Newhouse dis 50 % Newhouse Pattern dis 50 % Newhouse Pattern dis 50 % Blake's Patent dis 40 % New Nood Choker w dos holes, 16½ c % Round Wire w dos 81.50, dis 10 % Cage w dos 82.75, dis 10 % Game Cage dis 10 % Game Cage New Nood Choker w dos 82.75, dis 10 % Rat. Decov per dos \$10.00, dis 10 % Troweis.	l
2 2 2	"Round Wire W doz 81,50, dis 10 \$ "Cage " dos 82,50, dis 10 \$ "Catch-on-aliva doz 82,50, dis 10 \$	
MMM	Rat. "Decov"	ı
RR	Troweis. Color C	
	Clement & Maynard's	
8		
2	Vision List of July 1, '79 dis 25 \$	
at at	Visons Solid Box List of July 1, 79 dis 25 \$\frac{1}{2}\$ Solid Box List of July 1, 79 dis 25 \$\frac{1}{2}\$ "Crown" (A. H. Hildick) 40 to 100 \$\text{B}\$, 150 dis 10 \$\frac{1}{2}\$ Peter Wrights 15\sqrt{1}\$ Solid 10 \$\frac{1}{2}\$ Solid 10 \$\frac{1}{2}\$	
9 4 8	Wilson's dis 20 % Howard's dis 20 % Merrill's dis 20 % fearent's dis 20 %	
AMMA	Parallel, Parker's	
N W W	** Simpson's Adjustable. dis 25% "Family." List. net	
9	"Family." List	
RECENT	Washer Cutters.	
MAN	Washer Cutters № dos 812.00 dis 20 €	
MMM	Well Wheels.—Revised list	
200	Wire. Bright and Achealed Nos. 06 18. disay @ 27% 5 bright and Achealed Nos. 06 18. disay @ 27% 5 bright and Achealed Nos. 16 6 25, disays @ 27% 5 Nos. 16 6 25, disays @ 27% 5 Galvanised, Nos. 06 18. disays @ 22% 5 Galvanised, Nos. 06 0. 90 10 cd disays @ 22% 5 Nos. 7 to 18. market list, disays @ 22% 5 Cast Steel disays @ 22% 6 40% 5	
43434	Coppered	
TO NOT	Tinned. Nos. 7 to 18	
*	Annealed Fence, *'04.8 and 9 dis 276 & 4.8 dis 276 & 4.8 dis 27.9 S dis 27.9 S dis 25.0 27.9 S dis 25.0 27.9 S dis 25.0 27.9 S dis 25.0 27.9 S	
**	Nos. to and ii.	
をおが	Stubs Steel Wire	
9 %	Steel Music Wire, Nos. 12 to 27	
BARRE		
A es 20 2	Wrenches. American Adjustable	
51.56.56	Diagonal dis 20 % Coes 'Genuine dis 33% % Mechanica dis 33% % Mechanica dis 33% % di	
MMM	Pattern, Malleable die 55 5 Girard 8tandard die 40 5 Girard Agl. 90 5	
RININA	Green Wire Cioth, per sq. foot, 30 @ 3560	
N N	Merrick's Pattern dis 35 % Briggs' Pattern dis 25 % Briggs' Pattern dis 26 % Van Wagoner & Williams' Basin	
S L	The Favorite Pooket (Bright)per dos \$4, dis 60 % Webster's Pat. Combinationdis 34 % Wringers.	
N N N	Pouriess, No. 9, no Cogs	
MAN	16 NO. 2, 11 05.00 10 NO. 3; 11 74.00 10 NO. 4; 175.00	
MAN	Unique, No. 0	2.1
2	" No. 156	
****	" No. 2/g 00.00 " No. 3 72.00	1
% W.W.	Eureks, No. 1. So.co Novelty, No. 10, with Cog Wheels 61,00 No. 2, 66,00 Excelsior, No. A, with Folding Bonoh 78,00 No. E, for Set Tubs. 9,00	
5666	Stamped TinwareNew List Jan. 10, 1880.	
6	Stamped Deep and Rothmed Waredls 25 %	
2 2	ALWAYS ASK FOR	
6 1		

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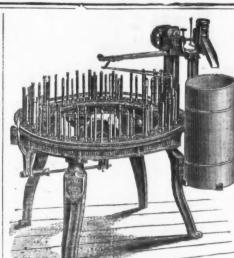
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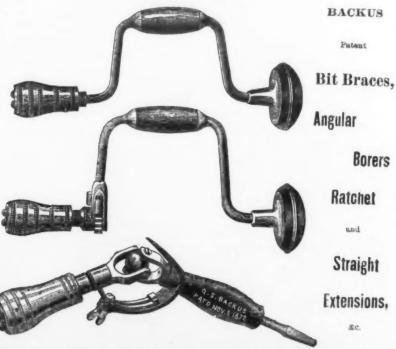
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METALS.	4 Per cent
1RON.—DUTY: Bars, 1 to 1140. \(\Phi \) Sheet, Ban Hoop and Scroll, 114 to 1140. \(\Phi \) b; provided, that not	d Percent.
IRON.—DUTY: Bars, 1 to 156c. \(\psi \) \(\psi \); Sheet, Ban Hood and Scroll, 154 to 156c. \(\psi \) \(\psi \); provided, that not of the above iron shall pay a less rate of duty than per cent. Pig. 87 \(\psi \) ton; Polished Sheet, 3c. \(\psi \) Wrought Scrap, \$8 \(\psi \) ton: Cast Scrap, \$6 \(\psi \) per to Railroad 70c. \(\psi \) too bs. Boiler and Plate, 156c. \(\psi \) to.	10 11 as 11
Pig ipanAMPRICAT Nominal	
Foundry No. 1 # ton \$40.00 @ 41. No. 2x # Fton 35.00 @ 35.00 @ 30.00 @ 36. Gray Porge. # ton 37.00 @ 36. Eglinton. # ton 32.00 @ 33.00 @	Railway Bars, in part Steel, 1 cent # B. Provi that Metal cemented, cast or made from Iron by Beasemer or neumaric process, of whatever for
Egilnton. # ton 32.05 @ 33% Coltness. # ton 35.00 @ 35.00 @ 35.00 @ 50.00 @ 50.00 Gartsherrie # ton 33.00 @ 50.00 @ 50.00	description, shall be classed as Tool
	Homogeneous
Old Rails	0 Tire
Gar Iren, from Stere. Common Iron: \[\text{to 2 in. round and square} \] 1 to 6 in. \(\pi \) in. \(\pi \) in.	Saw Plate, mill and mulay
	Best Cast P b I Extra Cast P b I Round Machinery Cast P b I
## 3.8 ## b 2 in. round and square. ## b 3.8 ## b 6 in.x½ and 5-10. ## b 4.0 Rods—% and 11-10 round and square. ## b 4.0 Bands—1 to 6x2-10 to No. 12. ## b 4.7 Norway Nail Hods.	Swaged, Cast. # b ii Best Double Shear. # b ii Blister, ist quality. # b
Sheet Iron.	Machinery (round and square). File. Sheet. Sheet. Saw Plate, mill and mulay. Sang pand X cut. English Steet. Extra Cast. Swaged, Cast. Swaged, Cast. Swaged, Cast. Blister use Shear Signaman Steet, Best Quality Sheet Cast Steet, ist quality Sheet Cast Steet, ist quality ANTIMONY ANTIMONY
Common R. G. American American American Common R. G. American Common	ANTIMONY.
15 to 26	Pipe and Sheet, 24c # b.
B.B. ad qual	Pipe and sneet, 39,0 \(\psi \) B. American
## B.B. ad qual ## B.B. ad q	Shot Drop 946, Buck, 1046, dis Chilles Shot 1046, dis
Amendean Cold Rolled has a regular	A 200 : B 160 : C 120
COPPER.—Dury: Pig, Har and Ingo t, to: OldCopper 4c b; Manufactured (including all article of which Copper is a component of chievaine), 45 % ad valorem. American Ingot	5; Electro-galvanized Plates, 2; 9 % 5; Manufactu of, not enumerated, 35 per cent. ad. val. Bars, Bli and Pirs free. Banca, subject to duty of 10 per ce
SHEATHING, BRAZIERS' COFFER. BOLTS, &c. Braziers' Copper, ordinary sizes, 1608. per sq.	TIN.—DUTY: Plates, Sheets, Tagger and Terne, L.P. \$\tilde{\pi}\$: Electo-galvanized Plates, \$\tilde{\pi}\$ \$
BHEATHING, BRAZIKES' COFFER. BOLTS, &c. Braziers' Copper, ordinary sizes, 100s. per sq. ft., and over per 10i. Braziers' Copper, ordinary sizes, under 16 oz. and over 19 oz. \$\psi\$ q. ft. Braziers' Copper 10 oz and 12 oz. \$\psi\$ so. ft. \$\psi\$ 350 Braziers Copper 10 oz and 12 oz. \$\psi\$ so. ft. \$\psi\$ 350 Circles less than \$4\$ is. in diameter \$\psi\$ oz. Circles less than \$4\$ is. in diameter \$\psi\$ \$\psi\$ so. \$\psi\$ so. ft. \$\psi\$ 360 Circles less than \$4\$ is. in diameter \$\psi\$ \$\ps	IC 10X14 Prime Charcoal\$10.00 @ 10
Lighter than 10 02. # sq. ft. # 3 400 Circles less than 84 is. in diameter # 5 370 Circles 84 in. diameter and over # 5 400	I C 10X14 Prime Charcoal \$10.00 @ 10 I C 12X12
fegment and Pattern Sheets # b 370 Locumotive Fire Box Sheets # b 340 Sheathing Copper, over 12 os. # 80. ft. # b 340	IX 12X12 "
Bolt Copper . # 3 34 Copper Bottoms # 370 No Copper is Sheathing except 14x4 Inches and not	For each additional X add,
	OOKE TIN PLAYE. Best, 2d quality. Ordina I C 12824
# Anest of All other size Sheets, 2/4c. per square foot. For tinning both sides, double the above amount. O'NEILL'S PATENT PLANISHED COPPER.—Net. LEGS.	Prime Char. 2d quai. Coke
14 and 16 or, and heavier. \$\Pm\$ 5 400 12 os, and lighter	IX 14320,11.25 @ 11.50 IC 20023819.00 @ 12.50 IX 20023823.00 @ 23.50
7 in., 14x52. 8 in., 14x50. 9 in., 14x60. 14 and 16 oz. and heavier. \$\psi\$ 430 By the case. \$\psi\$ have (And all sizes not over 30 in. wide.)	Prime Char, ad quai. Coke I C 14330 12,75 @ 9,40 9 I X 14320 11,25 @ 11,40 9 I C 20320 12,00 @ 12,40 8 I C 20320 25,00 8 I C 14320 M. F. Krand No. L 140 @ 150 1 No. 2, 131 SPELTER—DUTY: In Figs, Ferre and Plates, 81,40 20 20 8,8
30x80. 14 and 16 os. and heavier	SPELTER—DUTY: In Pigs, Pure and Plates, \$1.50 100 Bs. American, cash Bergen Port from Lehign Ore
Brown & Sharp's Gauge the Standard for Metal; Old English Gauge the Standard for Wire. BRASE MANUACTOREMS' PRIOR LIST.—dis 10%.	ZINCDUTY: Pig or Block, 1.50 ¥ 100 Bs. She
Coah prices for Roll and Sheet Brass. For less guan	Sheet, Cask
tity than 100 Bs. add 30 W B.	Paper Stock, &c.
All Nos. not thinner than to No. 28, wider than 2 in., not wider than 1, in. All Nos. to No. 28, inclusive, and widths over 14 to 21 in., inclusive All Nos. to No. 28, inclusive, and widths over 20 to	Canvas linen. (Dealer's Selling Price.)
34c. Wh advance on each No. above Nos. 28 to 38, in-	White cotton, new
All Brass thinner than No. 35 is Piaters' Erass, at 450 Shoots 24m3, and all shoets cut to particular sizes and lengths under 20 in., in width wider than 2 in. 390	
	BOLL MODIEUR
Sheets wider than 3c in. and under 4c in	Gunny bagging
Circular Sheets, in diam. from 4 in. to 14, linciusive. 190 over 14 30, 47, 470	Mixed woolens
Circular Sheets, in diam. from 4 in. to 1, inclusivejsc Over 14 50 6 41 51 10 11	Rope cuttings. 156 mg. Kentucky bale rope 4 mg. Grass rope 3 mg. Tarred shaking. 15 mg. Hard White Shavings. No. 1
Circular Sheets, in diam. from 4 in. to 14, inclusive 15 over 14 20, 470 cover 15 20, 4	Rope cuttings. 156 mg. Kentucky bale rope 4 mg. Grass rope 3 mg. Tarred shaking. 15 mg. Hard White Shavings. No. 1
Circular Sheets, in diam. from 4 in. to 14, inclusive35c over 14 20, 477 and 15 20, 15 20, 17 20,	Rope cuttings
Circular Sheets, in diam. from 4 in, to 14, inclusive, 150 over 14 in 20, 470 over 14 in	Rope cuttings
Circular Sheets, in diam. from 4 in, to 14, inclusive, 150 over 14 in 20, 470 over 14 in	Bope cuttings
Circular Sheets, in diam. from 4 in. to 14, inclusive32c over 14 20, 47c over 15 20, 47c ov	Rope cuttings
Circular Sheets, in diam. from 4 in. to 14, inclusive32c Over 14 20, 47c 47c 20 29c	Rope cuttings
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1.60	Frostings	******	******		50
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he	shellac, English	******		******	436
or	Gum, Copal. " Damar. " Shellac, English. " dark Litharge, English. Mineral Wool. Pumic Stone, selected Lum; " powdered Putty, in bladders		*******	******	7360
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	36 X 38 to 24 X 36	13.50	12.25	31.30	
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20	90 X 52 to 90 X 54	37.25	16,00	13,50	
20	90 X 52 to 30 X 54	vB.740	16.78	15,00	
10	34 x 58 to 34 x 60	19.50	18.00		
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k	Bises above 40 x 50-\$10.00	35.40	32,50	30.25	every
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Also, Manufacturers of
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A quick, strong, clean Powder of very fine grain for
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DUPONT'S RIFLE, Fg, "Sea Sheeting,"
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strong and moist.

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N. B.-Use none but Dupont's Fg or FFg Powder
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ORANGE LIGHTNING,
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more popular than any Powder now in use.
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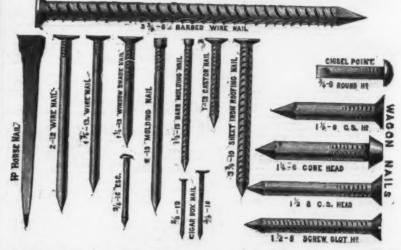
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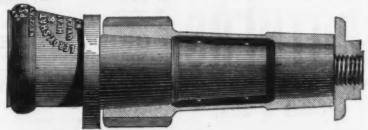
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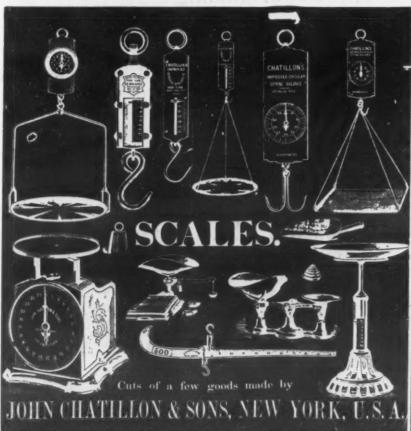
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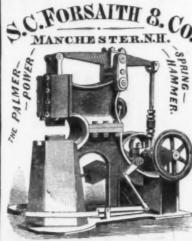
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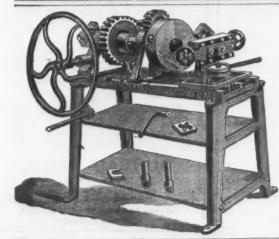
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Are made considerably lighter, but in every other respect like the ordinary hand-saw file; the lengths range from 4 to 12 inches (by inches only), being made from the sizes of three-square sections stated below.

Lengths of Slim Hand-Saws	4	5	6	7	8	10	12	inches.
Sizes of Three-Square Sections	3	31/2	4	5	6	8	10	inches.

The slim hand-saw file is, to a considerable extent, taking the place of the regular pattern saw file; the principal advantage claimed (particularly among the smaller sizes) being the greater sweep or stroke which is obtainable in files of a corresponding size.

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Wrought Loose Joint dis 25&10 5 Wrought Loose Pin dis 25&10 5 Wrought Loose Pin dis 25&10 5
American Ball Butts
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1879. dis 20 % Galvanized Pump. dis 20 % Galvanized Pump. # B ne net
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Socket Firmer. dis to 5 Butcher's \$5,00 to £ gold
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Fry Pans.
dor.#3.40 4.00 4.50 5.00 5.50 7.50 9.00 10.00 No 0 1 2 3 4 5 6 7 8 Burnished
Adjustable Handis
Nicholson dis 25 % Disston dis 25 % Butcher ds, 50 € Spencer ds, 50 € Byenoer ds, 50 € 4.75 € ds, 50 € <td< td=""></td<>
#450 @ 4.75 E Fluting Machines. Eagle—3/4 in rolleach, \$2.15, dis 10 \$
##
" —8 in. roll
Hammers, Verkes & Plumb's, new list,
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Pol'ed & Pol'd and Blued and Pointed, 31 at 26 25 24 23
Hingess Strap and T
Discount on Ausable and Clinton so S : Globe sof
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American Padlocks
Square Candle and Oil
Lawn Howers.—Pennsylvaniadis 30&10 % Philadelphiadis 30&10 % Excelsiordis 30&20 %
Holland PatentList \$5.00 dis 10 \$
Mattocks. Long and Short Cutternew list Pennsylvania Patternper doz
Molasses Gates. Enterprise Mfg. Co.'s Measuring Faucetsdis 15 % Stebbins' Gates.
Molasses Gates, Enterprise Mig. Co.'s Measuring Faucetsdis 502:05 Stebbins' Gates
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Meat Cutters.—Pennsylvania Meat Cutter. dis 50 g Dixon's
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Butcher's
Pumps.—Bickford
Stanley Ivory
Steelyards. Hart's Pattern dis 30st 10 %
Otrol and Iwon dis soft, full some dis soft- st
Try Squares, Stanley
and Sharpened
Clipper No. 5, Painted Red, Boxed and Sharpened. \$\pi\$ doz \$8.00 net \$\text{SawsDisston's hand, Panel and Rip. dia \$\text{diag}\$.
Dission's Circular. dis 35 % Cross-Cut No. 2. Plain Tooth. dis 36% Patent Tooth. dis 36% Champion Tooth. dis 26% dis 26%
Shovels and Spades.
Rowland
Sad Irons. 4 to 10 lbs.
No. 1
" Slips " 400 net Axe " 186 net Turkey Oli Stone No. 1
Axe Stone
Serews.
15 % Inches in the second seco

Species
Tinneddts 10 %
SpringsTorrey 0 doz \$3.5 net Philadelphia 5 in., \$5.00; \$ in., \$7.00 \$ doz. \$3.5 net Philadelphia 5 in., \$5.00; \$ in., \$7.00 \$ doz. \$3.5 net Chatfield No. 1, \$2.75; 2, \$8.25; 3, \$5.00 \$ doz. \$3.55 doz. \$7.00 \$ doz. \$7.00 \$ doz. \$7.50 \$ doz. \$7
Stocks and Dies dis toks &
Steve Pelish.—Gem
Tacks, Brads, &c. dis 20 % Shoe Nails—4-8 and larger, 8c; 316-8, 9c # B net Double Pointed Tacks. dis 40-8.5 %
Traps. Genuine Oneida—Newhousedis 30 % Im. Oneida—Newhouse list, first qualdis 50 %
Vises.—Solid Box, Trenton new listdis 25 \$
Wrenches, - Agricultural dis 50 % Coos' Genuine dis 33 % % Mochanics' dis 33 % % Mail. Bar dis 50 % Philada Tool Co., Duplex dis 25 %
Wire. Bright or Ann'd, No. o to 18 dis 25&27/6 \$ No. 10 to 26 dis 35&37/6 \$ No. 27 to 26 dis 40&42/6 \$ Coppered, o to 18 dis 20&22/6 \$ Tinned Broom Wire. dis 27/6 \$ Gaivanted, No. 7 to 18 Market List, dis 15&7/6 \$ Caivanted, No. 7 to
Wringers.—Novelty No. 10. # dom \$63.00 net Novelty No. 2 # 65.00 net Universal No. 256 # 65.00 net No. 2 # 65.00 net No. 2 # 65.00 net Peerless, No. 256 # 67 # 63.00 net No. 2 # 65.00 net
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Merchant Iron.
TERMS.—Note or acceptance at 60 days, with current at 60 exchange on New York, or a discount of a peeent, for cash, if remitted within 10 days from dat of invoice. Flat Bar.
1½ to 4 by ½ to 1 inch
Rounds and Squares 1 to 116 4.0 % fto 9.16 4.2 2 to 226 4.2 2 to 236 4.2 2 to 7.16 4.4 2 to 334 4.50 5 to 5 4.50 356 4.50 356 4.50
Oval Iron, 40 136
% to 1% inch
Horse Shoe.
% Inch, Nos. 13 and 14
Heavy Bands. 3\(\) to 6 by \(\) and 5-16 linch
134 to 6 by 34 to 3-16

1 to 134 by 14 to 3-16
I to 1% by Nos. 11 and 12.
34 and 13-16 by 14 to 3-16
% and 13-16 by Nos. 11 and 12
Mand reach by 16 to a a
% and 11-16 by 16 to 3-16
24 and 11-10 by Nos. 11 and 12
% and 9-16 by 16 to 3-16
and 9-16 by Nos. 11 and 12
36 inch by 36 and 3-16
36 inch by Nos. 11 and 12
Hoop Iron,
11/4 to 4, Nos. 13. 14 and 15
154 to 2, Nos. 16, 17 and 18
11 to 2, No. 19
134 to 2, No. 20
1 to 2, No. 21
114 to 2, No. 23
15-16, 1, and 11/6 Nos. 13, 14 and 15
15-10, 1, and 1% Nos. 13, 14 and 14
15-16, 1, and 1%, Nos. 16, 17 and 18
15-16, 1, and 1%, Nos 19 and 20
15-10, 1, and 134, No. 21
15 16, 1, and 136, No. 22

New list. 26 23 21 20 19 18	3
i & Pointed 23 20 19 18 17	7
1 & Pointed 23 21 20 10 18	lî
usable and Clinton, 20 %; Globe, 10%	1
obs.	1
3314 %	4
tdis toka s c sh	9
ocksdis 10#5 % cash	2
adlocks dis 50 %	19
5.50 6.50 7.50 8.50 10.00 12.50 dis 50 %	3
30 39	13
	9
04 04 60 } *********	9
	9
and Oil @ doz'	9
No. o, \$8.65; No. 1, \$10.15 @ doz net	9
ats extra per dos. net.	9
-Pennsylvaniadis 30&10 %	2
dls 30/kto \$	1.5
dis 30230 %	12

A Candan Duman	
rn and Garden Pumps. liand PatentList \$5.00 dis 10 %	% No. 22
tocks.	The prices under Hoop Iron do not apply to Cotton
ng and Short Cutternew list	Ties.
ansylvania Patternper doz	1-10c. per lb, extra will be charged for each gauge
asses Gates.	lighter than the lightest indicated.
terprise Mfg. Co.'s Measuring Faucetsdis 15 %	1-10c. per lb. extra will be charged for cutting Hoops to specified lengths.
bbins' Gatesdis 50&10 \$	Barrel Hoops.
iders, Frary & Clark's Petroleumdis 20&10 \$	
uss Liquor Cocks, new list Jan. 1. 1880. , dis 25/210 \$	
k Lined "dis 70 %	g to 11 lbs. per set of 6 hoops
	8 lbs. and less than 9 lbs. per set of 6 hoops5.10
t Cutters.—Pennsylvania Meat Cutterdis to %	Less than 8 lbs. per set of 6 hoops
OD's die to g	The state of the s

Extras for Cutting to Lengt	th all Preceed	ing Iron.
All Iron, including Tire		I-IO
Tank Ire		
No. 9 and heavier		
Plow Slabs		
Wings		53
Sheet Ire	on.	
Common,	Charcoal.	Juniate
No. 10 to 14 5.00	6.50	8.0
No. 15 to 175-90	6.8c	8.3
No. 18 to 21	7.10	8.6
No. 22 to 245.8c	7.30	8.8
No. 25 & 26	7.5C	9.0
No. 27	7.70	9.2
No. 28	8.10	9.6
All sheets No. 18 and lighter	, over 30 Inc.	hes wide
not less than 2-10c extra.		
Wood's Patent Pla	numea Sheet.	1/
rst quality (A)		1179
Coal Screen		

Coal Screen Iron,	
136 by 36 by 5-163-5c 1 by 36 by 5-16	5.00
Angle Iron.	
236, 3, 336 and 4 inch	4.80
136, 196, 2 and 236 "	
ik inch	4.90
	6.10
by I inch, for Plow Handles	5-30
136 by % " "	
1% by % " " T Rail.	5-40
8 lbs. to the yard44c 20 lbs. to the yard	
Splice Joints for 12, 16 and 20 lb. Rail, 60c each	; 28
and 30 lb. Rail, 80c each; 40 lb. 90c each.	
34 by % and % Spikes for 20 and 28 lb. Rail	540
34 and 3 by % " 12 and 16 lb. Rail	36.0
by 5-16 " 8 lb, Rail	0 6
. Flat RailsPunched and Countersunk.	
1/to a by 1/to 8/finah	

11/4 to 2 by 1/4 to 1/4 inch
Juniata Nail Rods
Norway Guard Iron, %x%x%, and %x%x%. Drag Bars
Dropper Bars
Nails,

	.79.88	118.		
60d				85
Be	at Refine	d Cast i	Steel.	
Squar	e, Flat, Oct.	agon and	d Round.	
in		2-22 and	ald cin	I
316 to 4 lt	in130	3-16 and	516 to 6 in	1
le and Do	uble Shear	Nallers.	Knife, Ta	p. Die.
PICK, DP	ll-Ordinar	W ofman		

Machinery Steel. Ordinary sizes, 16 to 2 in., Round, Square, Flat and

s % s s s s s s s s s s s s s s s s s s	4:16 and 3½ to 4 in 8c 3-16 and ½ to 6 in 12c 4 and 3½ to 4 in 8c 5-32 in 12c Case Spring Steel. 1½ to xx-32 to 1-16 in 7c 1 to 4x¼ to ½ in 10c 1½ to 1½xx-32 to 3-16 in 8c 7-32 and 4½ to 5 in 10c Bessemer, 1c. per lb, less. Same Classification. Cut to special lengths, ½c. extra.
0%	Agricultural Steels.
5%	Solid Cast Steel Plow, 4 to 16 by 3-16 to 36 in
o %	Scythe Back 7 C
5 %	Fork and Rake
20	Finger Bar
22	Hoe, C. S 61/ge

Sh	est Cast Ste	eela.	
10 to 20 gauge 13c. 21 to 26 gauge, rc. e: Beveled Hoe and Sho	ktra for eac	h addition	al gauge.
Relli	and Cas	tings.	

8	Rolls and Castings.
XXXXX et et et et et	Furnace, Floor and Straightening Plates. Housings and Castings not otherwise specified. Guide Plates. Sand Rolls and Plnions, large size """ Pipe Mill Castings. Holling Mill Castings under 50 lbs. Spur and Bevel Wheels, large. """ """ """ """ """ """ """
	Chilled Rolls,
nt er te	6 to 7 in. diam., 7 to 20 in. long

24 80 31		72 to 108 in	L. 66		*********	
	Horse	Shoes, Et	C	in 100 kes	lots.	
44	"Roads	ster" patter	m	*********	14	7.0
	**	This and	W	X X		

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Strictly Pure White Lead in Oil, in kegs, in lots of
soo b and over, 85cc: less than soo b, oc: in ac and so
n Tin Pails, &c. W n over keg price; Isla n Tin
Pails, ic ? b over keg price; assorted, 1 to 5 b, 100 b Cases, iic.
Dry White Leadless than 500 lbs., 84c; over 500 lbs.,74c
Orange Mineral, genuine, in kegs, roc; in barrels, olec
Red Lead, very brilliant, " 756c; " 7 c
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Single	Strength.
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4 - 44	

\$8.24	87.50	\$7.00	\$6.50
9.25	8.50	8,00	7.25
10.75	9-75	8,75	7.75
12.25	10.75	0.00	8,60
13.00	11.50	0.75	9.00
14.50	13.25	10.75	9.50
15.00	14.00	11.25	10.50
16.00	14 50	12,00	
17.25	15.50	12,50	
18.25	17.25	16,00	
20.75	18.75	17.35	
12.75	11.75	10.75	10.00
14.50	13,25	12,50	11.25
17.25	15.75	14.00	
19.75	17.25	14.50	
21,00			
23.25	21.25		
24.00	23,40		
	23,25		
	25,00		
30.25		24.00	
33.25	30,00	27.75	
	9.24, 10.75, 12.25, 13.00 16.00 17.25, 18.25, 20.75, 14.50, 17.25, 19.75, 21.00 25.75, 24.00 25.75, 20.25, 75,	9.24 8.50 10.75 9.75 12.25 10.75 13.00 11.50 14.50 13.24 15.00 14.60 15.00 14.60 17.25 15.90 17.25 15.90 18.25 15.95 17.25 15.95 17.25 15.75 17.25 15.75 17.25 15.75 24.00 22.52 27.75 22.00 20.25 27.75	9.24 8.50 8.00 8.00 10.75 9.75 8.74 12.25 10.75 9.75 12.50 13.50 11.30 1

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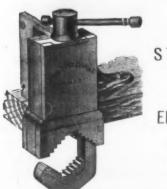
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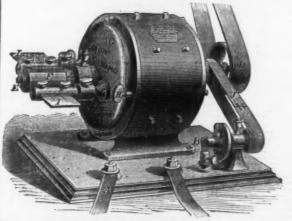


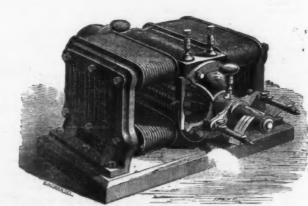
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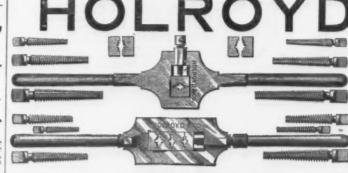
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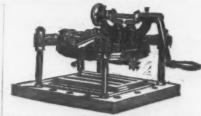
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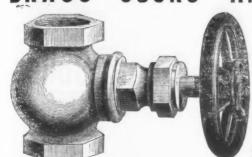


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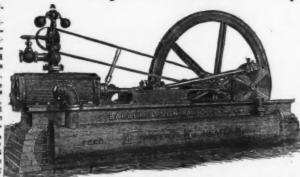


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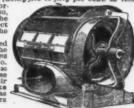
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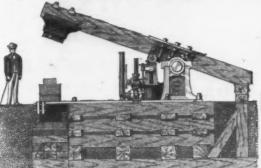
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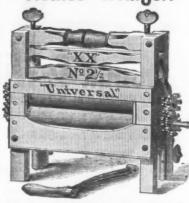
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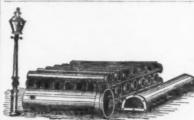


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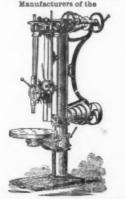


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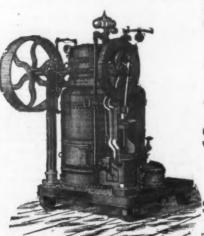
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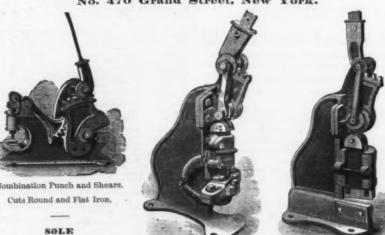
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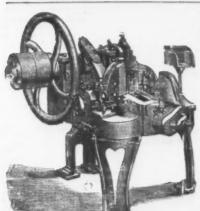
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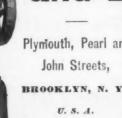
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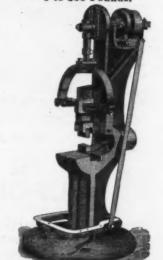
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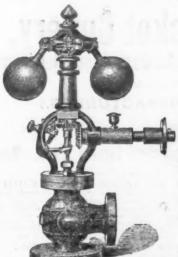
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	236 44	90.00	23.00	2.25	2.90		6.00	
	E36 "	23.00	27.00	8.50	2.75	8.00	7.50	
A	B 55	87.00	31.00	2.75	8.75	9.00	9.00	
1	256 14	36.00	41:00	3.50	3.50	10.00	12.00	
40	3	45.00	59.00	4.25	4.85	21.00	17.00	
~	33/4 "	54.00	62.00	4-50	4.50	12.50	21.00	
	4 "	64.00	73.00	5.00	5.00	14-50	25.00	
•	436 "	74.00	84.00	5.50	5.90	16.00	31.00	
	g "	84.00	95.00	6.00	6.50	87.50	37.00	
	6 4	112.00	135.00	7.00	7.50	19.00	50.00	
	7 44	132.00	146.00	8.00	9.50	23.00	60.00	

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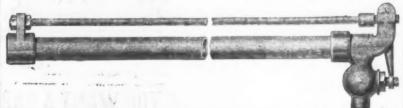
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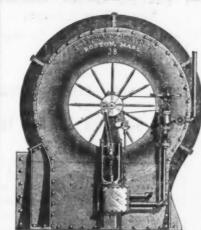


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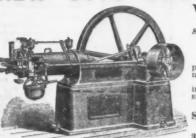
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